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TABLES OF THE DEVELOPMENTS OF FUNCTIONS IN THE THEORY OF ELLIPTIC MOTION.

[From the *Memoirs of the Royal Astronomical Society*, vol. XXIX. (1861), pp. 191—306. Read January 12, 1859.]

THE notation made use of is as follows; viz., r, f, a, e, g denote

r, the radius vector;
f, the true anomaly;
a, the mean distance;
e, the eccentricity;
g, the mean anomaly;

so that

$$\frac{r}{a}, = \text{elqr } (e, g),$$

and

$$f, = \text{elta } (e, g),$$

are known functions of e, g. Moreover, x denotes the periodic part of the quotient radius $\frac{r}{a}$, and y the equation of the centre, or periodic part of the true anomaly f; so that

$$\frac{r}{a} = 1 + x,$$

$$f = g + y,$$

and (x, y) are therefore also known functions of e, g.

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Formulæ for the development in multiple cosines or sines, up to the terms in e^7, of the functions

$$(x^0, x^1, \ldots x^7) \begin{matrix}\cos \\ \sin\end{matrix} jy,$$

where j is an indeterminate symbol, are given by Leverrier in the *Annales de l'Observatoire de Paris*, tom. I. (1855), pp. 346—348. It occurred to me that it would be desirable to form tables such as are contained in the present memoir, of various functions of the forms

$$x^m \begin{matrix}\cos \\ \sin\end{matrix} jf, \qquad \left(\frac{r}{a}\right)^{\pm m} \begin{matrix}\cos \\ \sin\end{matrix} jf,$$

obtainable from Leverrier's formulæ by assigning particular integer values to the symbol j. The calculations were performed under my superintendence by Messrs Creedy and Davis; and I have to acknowledge my obligation for a grant to defray the expenses, made to me out of the Donation Fund at the disposal of the Council of the Royal Society.

A cosine series is in general represented in the form

$$\Sigma\, [\cos]^i \cos ig,$$

where i extends from $-\infty$ to $+\infty$, and the coefficients $[\cos]^i$ satisfy the condition

$$[\cos]^{-i} = [\cos]^i;$$

and in like manner a sine series is represented in the form

$$\Sigma\, [\sin]^i \sin ig,$$

where i extends from $-\infty$ to $+\infty$, and the coefficients $[\sin]^i$ satisfy the condition

$$[\sin]^{-i} = -[\sin]^i, \text{ and in particular}$$
$$[\sin]^0 = 0.$$

Thus $[\cos]^i$ is a general symbol denoting the coefficient of $\cos ig$, in a cosine series considered as involving as well negative as positive multiples of the argument g, or, what is the same thing, $[\cos]^0$ is the constant term and $[\cos]^i$ is the half coefficient of $\cos ig$, when the series is considered as containing only positive multiples of the argument. And in like manner $[\sin]^i$ is a general symbol for the coefficient of $\sin ig$, in a sine series considered as involving as well negative as positive multiples of the argument g, or, what is the same thing, $[\sin]^i$ is the half coefficient of $\sin ig$, when the series is considered as containing only positive multiples of the argument.

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In the case of a pair of corresponding functions $x^m \cos jf$ and $x^m \sin jf$, or $\left(\frac{r}{a}\right)^{\pm m} \cos jf$ and $\left(\frac{r}{a}\right)^{\pm m} \sin jf$, one of them expanded in the form

$$\Sigma\,[\cos]^i \cos ig,$$

and the other in the form

$$\Sigma\,[\sin]^i \sin ig,$$

the sums and differences of the corresponding coefficients $[\cos]^i$, $[\sin]^i$, are represented by the notation

$$[\cos \pm \sin]^i,$$

and it is clear that we have

$$[\cos + \sin]^{-i} = [\cos - \sin]^i,\ [\cos \pm \sin]^0 = [\cos]^0.$$

These coefficients $[\cos \pm \sin]^i$ are for many purposes equally useful with the coefficients $[\cos]^i$, $[\sin]^i$, and they are here tabulated accordingly.

The functions tabulated are as follows:—

$$\left(x^1,\ x^2, \ldots . x^7\right) \qquad , [\cos],$$

$$\left(x^0,\ x^1,\ x^2, \ldots . x^7\right) \begin{matrix}\cos \\ \sin\end{matrix} jf,\ j=1 \text{ to } j=7,\ [\cos], [\sin], [\cos \pm \sin],$$

$$\left(\left(\frac{r}{a}\right)^{+4}, \ldots \left(\frac{r}{a}\right)^{+1}, \log \frac{r}{a}, \left(\frac{r}{a}\right)^{-1}, \ldots \left(\frac{r}{a}\right)^{-5}\right) \qquad , [\cos],$$

$$\left(\left(\frac{r}{a}\right)^{+4}, \ldots \left(\frac{r}{a}\right)^{+1}, \qquad \left(\frac{r}{a}\right)^{-1}, \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos \\ \sin\end{matrix} jf, j=1 \text{ to } j=5,\ [\cos], [\sin], [\cos \pm \sin],$$

all the developments being carried up to e^7, the limit of the formulæ from which they are deduced.

The calculations are based upon Leverrier's formulæ for

$$(x^0,\ x^1, \ldots . x^7) \begin{matrix}\cos \\ \sin\end{matrix} jy,$$

which are made use of under the following forms, which I call the Datum Tables $(x^0 \ldots . x^7) \begin{matrix}\cos \\ \sin\end{matrix} jy$.

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Cosine Table. $\frac{1}{2}$ of	$[\ ]^0$				$[\ ]^1$			
	$\frac{e^0}{2}$	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e}{4}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
$x^0 \cos jy$	$+1$	$-8j^2$	$+96j^4$	$-1280j^6$	0	$-30j^2$	$+800j^4$	$-16800j^6$
			$-54j^2$	$+3920j^4$			$-120j^2$	$+30590j^4$
				$-3440j^2$				$-29470j^2$
$x \cos jy$		$+4$	$-48j^2$	$0j^4$	-1	$+12j^2$	$-160j^4$	$+2240j^6$
				$-360j^2$		$+9$	$-370j^2$	$-980j^4$
							-50	$+9695j^2$
								$+245$
$x^2 \cos jy$		$+4$	$-96j^2$	$+1920j^4$		-12	$-244j^2$	$+16800j^4$
				$-1320j^2$			$+80$	$-6300j^2$
								-420
$x^3 \cos jy$			$+144$	$-2880j^2$		-18	$+480j^2$	$-10080j^4$
							$+360$	$-22050j^2$
								-3150
$x^4 \cos jy$			$+144$	$-5760j^2$			-960	$-5040j^2$
								$+10080$
$x^5 \cos jy$				$+14400$			-1200	$+50400j^2$
								$+37800$
$x^6 \cos jy$				$+14400$				-151200
$x^7 \cos jy$				0				-176400

Datum Table $(x_0 \dots x^7) \cos jy \dots$

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Cosine Table. $\frac{1}{2}$ of	$[\ ]^2$			$[\ ]^2$		
	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
$x^0 \cos j\,y$	$+4j^2$	$-64j^4$	$+960j^6$	$+30j^2$	$-1200j^4$	$+30240j^6$
	$-256j^2$	$+11820j^4$			$-3240j^2$	$+243810j^4$
		$+4710j^2$				$+173502j^2$
$x \cos j\,y$	-2	$+192j^2$	$-4800j^4$	$-12j^2$	$+240j^4$	$-4032j^6$
		$+64$	$-8190j^2$	-9	$+2745j^2$	$-122220j^4$
			-1440		$+675$	$-225099j^2$
						-35721
$x^2 \cos j\,y$	$+2$	$0j^2$	$-480j^4$	$+12$	$-840j^2$	$+10080j^4$
		-96	$+1590j^2$		-1080	$+102060j^2$
			$+2400$			$+61236$
$x^3 \cos j\,y$		0	$+7920j^2$	-6	$-240j^2$	$+10080j^4$
			$+1440$		$+540$	$+85050j^2$
						-17010
$x^4 \cos j\,y$		$+96$	$-1440j^2$		$+480$	$-95760j^2$
			-8640			-90720
$x^5 \cos j\,y$			$+3600$		-600	$-10080j^2$
						$+113400$
$x^6 \cos j\,y$			$+10800$			$+30240$
$x^7 \cos j\,y$			0			-105840

... Datum Table $(x^0 \ldots x^7) \cos j\,y$ ...

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Cosine Table. $\frac{1}{2}$ of	$[\ ]^4$		$[\ ]^5$		$[\ ]^6$	$[\ ]^7$
	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$	$\frac{e^6}{92160}$	$\frac{e^7}{1290240}$
$x^0 \cos jy$	$+16j^4$ $+283j^2$	$-384j^6$ $-22440j^4$ $-51528j^2$	$+400j^4$ $+3360j^2$	$-16800j^6$ $-467530j^4$ $-972790j^2$	$+64j^6$ $+8660j^4$ $+48538j^2$	$+3360j^6$ $+193130j^4$ $+828758j^2$
$x \cos jy$	$-168j^2$ -64	$+7680j^4$ $+46260j^2$ $+9216$	$-80j^4$ $-2375j^2$ -625	$+2240j^6$ $+205660j^4$ $+905135j^2$ $+153125$	$-2880j^4$ $-37890j^2$ -7776	$-448j^6$ $-82460j^4$ $-689731j^2$ -117649
$x^2 \cos jy$	$+48j^2$ $+96$	$-960j^4$ $-22380j^2$ -15360	$+1080j^2$ $+1000$	$-50400j^4$ $-540540j^2$ -262500	$+480j^4$ $+21450j^2$ $+12960$	$+23520j^4$ $+444780j^2$ $+201684$
$x^3 \cos jy$	-72	$+1440j^2$ $+11520$	$-240j^2$ -900	$+3360j^4$ $+147630j^2$ $+236250$	$-7920j^2$ -12960	$-3360j^4$ $-210630j^2$ -216090
$x^4 \cos jy$	$+24$	$+2880j^2$ $+0$	$+480$	$+35280j^2$ -84000	$+1440j^2$ $+8640$	$+6552oj^2$ $+164640$
$x^5 \cos jy$		-7200	-120	$-30240j^2$ -63000	-3600	$-10080j^2$ -88200
$x^6 \cos jy$		$+4320$		$+90720$	$+720$	$+30240$
$x^7 \cos jy$		0		-35280	0	-5040

... Datum Table $(x^0 \ldots x^7) \cos jy$.

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Sine Table. $\frac{1}{2}$ of	$[\ ]^0$				$[\ ]^1$			
	$\frac{e^0}{2}$	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e}{4}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
$x^0 \sin jy$					$+2j$	$-24j^3$	$+320j^5$	$-4480j^7$
						$-6j^3$	$+260j^3$	$-1400j^5$
							$+100j$	$-17290j^3$
								$+7490j$
$x \sin jy$						$+21j$	$-400j^3$	$+5040j^5$
							$-180j$	$+35j^3$
								$+6125j$
$x^2 \sin jy$						$+12j$	$-320j^3$	$+6720j^5$
							$+160j$	$-420j^3$
								$+3780j$
$x^3 \sin jy$							$+840j$	$-25200j^3$
								$-10080j$
$x^4 \sin jy$							$+480j$	$-20160j^3$
								$+25200j$
$x^5 \sin jy$								$+88200j$
$x^6 \sin jy$								$+50400j$
$x^7 \sin jy$								0

Datum Table $(x^8 \ldots x^7) \sin jy \ldots$

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Sine Table. $\frac{1}{2}$ of	[ ]^2			[ ]^3		
	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
$x^0 \sin jy$	$+5j$	$-240j^3$	$+6000j^5$	$+8j^3$	$-160j^5$	$+2688j^7$
	$-88j$	$+8895j^3$	$+125160j^5$	$+26j$	$-3070j^3$	$+257166j^5$
		$+2040j$	$+257166j^3$		$-1290j$	$+59850j^3$
			$+59850j$			$-145971j$
$x \sin jy$	$-4j$	$+64j^3$	$-960j^5$	$-27j$	$+1400j^3$	$-36624j^5$
		$+184j$	$-8340j^3$		$+2300j$	$-207165j^3$
			$-57001j$			$-145971j$
$x^2 \sin jy$		$-72j$	$-1200j^3$	$+12j$	$-160j^3$	$+1344j^5$
			$+4260j$		$-1600j$	$+39900j^3$
						$+130788j$
$x^3 \sin jy$		$-96j$	$+2880j^3$		$-180j$	$+55440j^3$
			$+6120j$			$+32760j$
$x^4 \sin jy$			$-8280j$		$+720j$	$-20160j^3$
						$-156240j$
$x^5 \sin jy$			$-7200j$			$+37800j$
$x^6 \sin jy$			0			$+90720j$
$x^7 \sin jy$			0			0

... Datum Table $(x^0 \ldots x^7) \sin j-$ ...

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Sine Table. $\frac{1}{2}$ of	$[\ ]^4$		$[\ ]^5$		$[\ ]^6$	$[\ ]^7$
	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$	$\frac{e^6}{92160}$	$\frac{e^7}{1290240}$
$x^0 \sin jy$	$+120j^3$ $+206j$	$-4800j^5$ $-49200j^3$ $-21648j$	$+32j^5$ $+1790j^3$ $+2194j$	$-896j^7$ $-124600j^5$ $-939722j^3$ $-416990j$	$+1200j^5$ $+29835j^3$ $+29352j$	$+128j^7$ $+35560j^5$ $+563486j^3$ $+472730j$
$x \sin jy$	$-32j^3$ $-236j$	$+768j^5$ $+27840j^3$ $+35736j$	$-760j^3$ $-2640j$	$+34608j^5$ $+599935j^3$ $+657601j$	$-192j^5$ $-15780j^3$ $-36324j$	$-9744j^5$ $-339745j^3$ $-595231j$
$x^2 \sin jy$	$+156j$	$-7680j^3$ $-30120j$	$+160j^3$ $+2080j$	$-4032j^5$ $-237300j^3$ $-610764j$	$+5520j^3$ $+31620j$	$+1344j^5$ $+152460j^3$ $+552468j$
$x^3 \sin jy$	$-48j$	$0j^3$ $+8640j$	$-1020j$	$+35280j^3$ $+303240j$	$-960j^3$ $-19320j$	$-45360j^3$ $-384720j$
$x^4 \sin jy$		$+7200j$	$+240j$	$+6720j^3$ $+11760j$	$+7560j$	$+6720j^3$ $+193200j$
$x^5 \sin jy$		$-5760j$		$-113400j$	$-1440j$	$-63000j$
$x^6 \sin jy$		0		$+50400j$	0	$+10080j$
$x^7 \sin jy$		0		0	0	0

... Datum Table $(x^0 \ldots x^7) \sin jy$.

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It may be remarked that with a view to the convenience of calculation, the Datum Tables give the half values of the several functions; thus, e.g., we have

$$\frac{1}{2}x^0\cos jy = \left\{+1\frac{e^0}{2} - 8j^2\frac{e^2}{16} + (96j^4 - 54j^2)\frac{e^4}{768} + \&c.\right\} + \left\{0\frac{e}{4} - 30j^2\frac{e^3}{96} + \&c.\right\} 2\cos g$$

$$+ \left\{4j^2\frac{e^2}{16} + \&c.\right\} 2\cos 2g + \&c.$$

and so for the other functions in the two tables.

The calculation, for a given value of j, of the functions $(x^0, x^1 \ldots\ldots x^7)\begin{matrix}\cos\\ \sin\end{matrix} jf$ is performed as follows; the numerical value of j is in the first instance substituted throughout the two Datum tables, so as to obtain the numerical values of the separate terms $\pm Aj^m$; when this is done, the terms in each compartment are added together with the proper signs, and the results written down in a single table as follows, viz. if $j = 1$, and if we write down only the portion of the table which corresponds to $x^0\begin{matrix}\cos\\ \sin\end{matrix} y$, (the portions corresponding to $x\begin{matrix}\cos\\ \sin\end{matrix} y$, $x^2\begin{matrix}\cos\\ \sin\end{matrix} y$ &c.$\ldots x^7\begin{matrix}\cos\\ \sin\end{matrix} y$, being of a precisely similar form, and coming into the table in order one under the other) this is

$\frac{1}{2}x^0\begin{matrix}\cos\\ \sin\end{matrix} y$	$[\,]^0$				$[\,]^1$			
	$\frac{e^0}{2}$	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e}{4}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
[cos]	+1	−8	+42	−800	0	−30	+680	−15680
[sin]	0	0	0	0	2	−30	+680	−15680
[cos + sin]	+1	−8	+42	−800	+2	−60	+1360	−31360
[cos − sin]	Do.	,,	,,	,,	−2	0	0	0

$\frac{1}{2}x^0\begin{matrix}\cos\\ \sin\end{matrix} y$	$[\,]^2$			$[\,]^3$		
	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
[cos]	+4	−320	+17490	+30	−4440	+447552
[sin]	+5	−328	+16935	+34	−4520	+444864
[cos + sin]	+9	−648	+34425	+64	−8960	+892416
[cos − sin]	−1	+8	+555	−4	+80	+2688

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$\frac{1}{2} x^0 \begin{matrix}\cos\\ \sin\end{matrix} y$	$[\ ]^4$		$[\ ]^5$		$[\ ]^6$	$[\ ]^7$
	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$	$\frac{e^6}{92160}$	$\frac{e^7}{1290240}$
[cos]	+ 299	− 74352	+ 3760	− 1457120	+ 57262	+ 1025248
[sin]	+ 326	− 75648	+ 4016	− 1482208	+ 60387	+ 1071904
[cos + sin]	+ 625	− 150000	+ 7776	− 2939328	+ 117649	+ 2097152
[cos − sin]	− 27	+ 1296	− 256	+ 25088	− 3125	− 46656

where the lines [cos + sin], [cos − sin] are obtained by the addition and subtraction of the lines [cos], [sin].

The lines [cos + sin], [cos − sin], are then rearranged by reading them backwards and forwards from the terms which are in the [cos − sin] line, under $[\ ]^j$; viz., in the present case, where $j = 1$, from the terms − 2, 0, 0, 0 under $[\ ]^1$, as follows:—

$x^0 \begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^0$				$[\ ]^1$			
	$\frac{e}{4}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$	$\frac{e^0}{2}$	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$
$\frac{1}{2}$ [cos + sin]	− 2	0	0	0	+ 1	− 8	+ 42	− 800
$\frac{1}{2}$ [cos − sin]	Do.	,,	,,	,,	0	− 1	+ 8	+ 555
[cos]	− 4	0	0	0	+ 1	− 9	+ 50	− 245
[sin]	0	0	0	0	+ 1	− 7	+ 34	− 1355

$x^0 \begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^2$				$[\ ]^3$			$[\ ]^4$		
	$\frac{e}{4}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$	$\frac{e^2}{16}$	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^3}{96}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$
$\frac{1}{2}$ [cos + sin]	+ 2	− 60	+ 1360	− 31360	+ 9	− 648	+ 34425	+ 64	− 8960	+ 892416
$\frac{1}{2}$ [cos − sin]	0	− 4	+ 80	+ 2688	0	− 27	+ 1296	0	− 256	+ 25088
[cos]	+ 2	− 64	+ 1440	− 28672	+ 9	− 675	+ 35721	+ 64	− 9216	+ 917504
[sin]	+ 2	− 56	+ 1280	− 24048	+ 9	− 621	+ 33129	+ 64	− 8704	+ 867328

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$x^0 \frac{\cos}{\sin} f$	[ ]^5		[ ]^6		[ ]^7	[ ]^8
	$\frac{e^4}{768}$	$\frac{e^6}{92160}$	$\frac{e^5}{7680}$	$\frac{e^7}{1290240}$	$\frac{e^6}{92160}$	$\frac{e^7}{1290240}$
$\frac{1}{2}[\cos+\sin]$	+625	−150000	+7776	−2939328	+117649	+2097152
$\frac{1}{2}[\cos-\sin]$	0	− 3125	0	− 46656	0	0
[cos]	+625	−153125	+7776	−2985984	+117649	+2097152
[sin]	+625	−146875	+7776	−2892672	+117649	+2097152

where the lines [cos], [sin] are obtained by the addition and subtraction of the lines $\frac{1}{2}[\cos+\sin]$, $\frac{1}{2}[\cos-\sin]$; and it then only remains to reduce the fractions, at the same time multiplying by 2 the lines $\frac{1}{2}[\cos+\sin]$, $\frac{1}{2}[\cos-\sin]$, to obtain instead the lines $[\cos+\sin]$, $[\cos-\sin]$. We have thus,

$x^0 \frac{\cos}{\sin} f$	[ ]^0				[ ]^1			
	e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
$[\cos+\sin]$	−1	0	0	0	+1	−1	$+\frac{7}{64}$	$-\frac{5}{288}$
$[\cos-\sin]$	Do.	,,	,,	,,	0	$-\frac{1}{8}$	$+\frac{1}{48}$	$+\frac{37}{3072}$
[cos]	−1	0	0	0	$+\frac{1}{2}$	$-\frac{9}{16}$	$+\frac{25}{384}$	$-\frac{49}{18432}$
[sin]	0	0	0	0	$+\frac{1}{2}$	$-\frac{7}{16}$	$+\frac{17}{384}$	$-\frac{271}{18432}$

$x^0 \frac{\cos}{\sin} f$	[ ]^2				[ ]^3			[ ]^4		
	e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
$[\cos+\sin]$	+1	$-\frac{5}{4}$	$+\frac{17}{48}$	$-\frac{7}{144}$	$+\frac{9}{8}$	$-\frac{27}{16}$	$+\frac{765}{1024}$	$+\frac{4}{3}$	$-\frac{7}{3}$	$+\frac{83}{60}$
$[\cos-\sin]$	0	$-\frac{1}{12}$	$+\frac{1}{48}$	$+\frac{1}{240}$	0	$-\frac{9}{128}$	$+\frac{9}{320}$	0	$-\frac{1}{15}$	$+\frac{7}{180}$
[cos]	$+\frac{1}{2}$	$-\frac{2}{3}$	$+\frac{3}{16}$	$-\frac{1}{45}$	$+\frac{9}{16}$	$-\frac{225}{256}$	$+\frac{3969}{10240}$	$+\frac{2}{3}$	$-\frac{6}{5}$	$+\frac{32}{45}$
[sin]	$+\frac{1}{2}$	$-\frac{7}{12}$	$+\frac{1}{6}$	$-\frac{19}{720}$	$+\frac{9}{16}$	$-\frac{207}{256}$	$+\frac{3681}{10240}$	$+\frac{2}{3}$	$-\frac{17}{15}$	$+\frac{121}{180}$

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$x^0 \begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^5$		$[\ ]^6$		$[\ ]^7$	$[\ ]^8$
	e^4	e^6	e^5	e^7	e^6	e^7
[cos + sin]	$+\frac{625}{384}$	$-\frac{625}{192}$	$+\frac{81}{40}$	$-\frac{5103}{1120}$	$+\frac{117649}{46080}$	$+\frac{1024}{315}$
[cos − sin]	0	$-\frac{625}{9216}$	0	$-\frac{81}{1120}$	0	0
[cos]	$+\frac{625}{768}$	$-\frac{30625}{18432}$	$+\frac{81}{80}$	$-\frac{81}{35}$	$+\frac{117649}{92160}$	$+\frac{512}{315}$
[sin]	$+\frac{625}{768}$	$-\frac{29375}{18432}$	$+\frac{81}{80}$	$-\frac{2511}{1120}$	$+\frac{117649}{92160}$	$+\frac{512}{315}$

which is, in fact, part of the table $(x^0 \ldots x^7) \begin{matrix}\cos\\ \sin\end{matrix} f$. It is to be remarked, that when in any column the second term is zero, the third and fourth terms are each equal to one-half of the first term, and that I have in the tables represented them by the letters H, H.

The foregoing method depends, it is easy to see, on the following proposition; viz., writing

$$x^m \cos jf = \Sigma\, [\cos]_f{}^i \cos ig, \quad x^m \sin jf = \Sigma\, [\sin]_f{}^i \sin ig,$$
$$x^m \cos jy = \Sigma\, [\cos]_y{}^i \cos ig, \quad x^m \sin jy = \Sigma\, [\sin]_y{}^i \sin ig,$$

where, as before, $f = g + y$, then we have

$$[\cos + \sin]_f{}^j = [\cos + \sin]_y{}^{i-j},$$
$$[\cos - \sin]_f{}^j = [\cos - \sin]_y{}^{i+j},$$

the latter of which follows immediately from the former. To prove this, it is to be remarked that in general

$$\cos\alpha\, \Sigma\, [\cos]^i \cos ig = \quad \Sigma\, [\cos]^i \cos(ig + \alpha),$$
$$\sin\alpha\, \Sigma\, [\sin]^i \sin ig = -\Sigma\, [\sin]^i \cos(ig + \alpha),$$
$$\sin\alpha\, \Sigma\, [\cos]^i \cos ig = \quad \Sigma\, [\cos]^i \sin(ig + \alpha),$$
$$\cos\alpha\, \Sigma\, [\sin]^i \sin ig = \quad \Sigma\, [\sin]^i \sin(ig + \alpha);$$

whence, putting $\alpha = jg$,

$$\cos jf = \cos(jy + jg) = \Sigma\, [\cos + \sin]_y{}^i \cos(i + j)\, g$$
$$= \Sigma\, \tfrac{1}{2} \{[\cos + \sin]_y{}^{i-j} + [\cos + \sin]_y{}^{-i-j}\} \cos ig,$$
$$\sin jf = \sin(jy + jg) = \Sigma\, [\cos + \sin]_y{}^i \sin(i + j)\, g$$
$$= \Sigma\, \tfrac{1}{2} \{[\cos + \sin]_y{}^{i-j} - [\cos + \sin]_y{}^{-i-j}\} \sin ig;$$

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and therefore

$$[\cos]_f{}^i = \tfrac{1}{2}\{[\cos+\sin]_y{}^{i-j} + [\cos+\sin]_y{}^{-i-j}\},$$

$$[\sin]_f{}^i = \tfrac{1}{2}\{[\cos+\sin]_y{}^{i-j} - [\cos+\sin]_y{}^{-i-j}\};$$

and, adding and subtracting, we have the theorem. The coefficients contained in the Datum Tables $(x^0 \ldots x^7)\begin{matrix}\cos\\ \sin\end{matrix} jy$ were taken to be $\frac{1}{2}[\cos]_y{}^i$, $\frac{1}{2}[\sin]_y{}^i$, in order that the calculations might in the first instance give $\frac{1}{2}[\cos+\sin]_f{}^j$, $\frac{1}{2}[\cos+\sin]_f{}^j$, and thence by an addition and subtraction, without a division by 2, give $[\cos]_f{}^j$, $[\sin]_f{}^j$.

The resulting values admit of a very simple verification; in fact, writing down the two equations

$$x^m \cos jf = \Sigma\,[\cos]^i \cos ig, \qquad x^m \sin jf = \Sigma\,[\sin]^i \sin ig,$$

or, what is the same thing, the summation now extending only from $i=1$ to $i=\infty$,

$$\tfrac{1}{2}x^m \cos jf = \tfrac{1}{2}[\cos]^0 + \Sigma'\,[\cos]^i \cos ig, \qquad \tfrac{1}{2}x^m \sin jf = \Sigma'\,[\sin]^i \sin ig;$$

if in the first equation, and in the second equation differentiated with respect to g, we put $g=0$, then, observing that $g=0$ gives $f=0$, $x=-e$, $\dfrac{df}{dg} = \dfrac{(1+e)^2}{(1-e^2)^{\frac{3}{2}}}$, we have

$$\tfrac{1}{2}[\cos]^0 + \Sigma'\,[\cos]^i = \tfrac{1}{2}j(-e)^m,$$

$$\Sigma' i\,[\sin]^i = \tfrac{1}{2}j(-e)^m(1 + 2e + \tfrac{5}{2}e^2 + 3e^3 + \tfrac{27}{8}e^4 + \tfrac{15}{4}e^5 + \tfrac{65}{16}e^6 + \tfrac{35}{8}e^7 + \ldots).$$

The values of $(x^0 \ldots x^7)\begin{matrix}\cos\\ \sin\end{matrix} jf$ being known, those of $\left(\dfrac{r}{a}\right)^{\pm m}\begin{matrix}\cos\\ \sin\end{matrix} jf$ can, of course, be determined by merely substituting for $\dfrac{r}{a}$ its value $(1+x)$, expanding and reducing; and a convenient mode of arranging the calculations presents itself so obviously, that no explanation is required. The verification is similar to that for $x^m \begin{matrix}\cos\\ \sin\end{matrix} jf$. The only difference is, that for $g=0$ we have the value of r, viz. $1-e$, in the place of the value $-e$ of x. A similar verification is applicable to the Datum Tables.

To make the arrangement of the Tables clear, I have given at the end of them some examples to show how they are to be read off.

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Table (x^0, x^1, x^2, x^3, x^4, x^5, x^6, x^7).

		$[\ ]^0$			$[\ ]^1$				$[\ ]^2$		
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7	e^2	e^4	e^6
x^0		$+1$	0	0	0	0	0	0	0	0	0	0
x^1			$+\frac{1}{2}$	0	0	$-\frac{1}{2}$	$+\frac{3}{16}$	$-\frac{5}{384}$	$+\frac{7}{18432}$	$-\frac{1}{4}$	$+\frac{1}{6}$	$-\frac{1}{32}$
x^2			$+\frac{1}{2}$	0	0		$-\frac{1}{4}$	$+\frac{1}{48}$	$-\frac{1}{1536}$	$+\frac{1}{4}$	$-\frac{1}{4}$	$+\frac{5}{96}$
x^3				$+\frac{3}{8}$	0		$-\frac{3}{8}$	$+\frac{3}{32}$	$-\frac{5}{1024}$		0	$+\frac{1}{32}$
	[cos]											
x^4				$+\frac{3}{8}$	0			$-\frac{1}{4}$	$+\frac{1}{64}$		$+\frac{1}{4}$	$-\frac{3}{16}$
x^5					$+\frac{5}{16}$			$-\frac{5}{16}$	$+\frac{15}{256}$			$+\frac{5}{64}$
x^6					$+\frac{5}{16}$				$-\frac{15}{64}$			$+\frac{15}{64}$
x^7									$-\frac{35}{128}$			

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Table (x^0, x^1, x^2, x^3, x^4, x^5, x^6, x^7).

		$[\ ]^3$			$[\ ]^4$		$[\ ]^5$		$[\ ]^6$	$[\ ]^7$
		e^3	e^5	e^7	e^4	e^6	e^5	e^6	e^6	e^7
x^0		0	0	0	0	0	0	0	0	0
x^1		$-\frac{3}{16}$	$+\frac{45}{256}$	$-\frac{567}{10240}$	$-\frac{1}{6}$	$+\frac{1}{5}$	$-\frac{125}{768}$	$+\frac{4375}{18432}$	$-\frac{27}{160}$	$-\frac{16807}{91260}$
x^2		$+\frac{1}{4}$	$-\frac{9}{32}$	$+\frac{243}{2560}$	$+\frac{1}{4}$	$-\frac{1}{3}$	$+\frac{25}{96}$	$-\frac{625}{1536}$	$+\frac{9}{32}$	$+\frac{2401}{7680}$
x^3		$-\frac{1}{8}$	$+\frac{9}{64}$	$-\frac{27}{1024}$	$-\frac{3}{16}$	$+\frac{1}{4}$	$-\frac{15}{64}$	$+\frac{375}{1024}$	$-\frac{9}{32}$	$-\frac{343}{1024}$
	[cos]									
x^4			$+\frac{1}{8}$	$-\frac{9}{64}$	$+\frac{1}{16}$	0	$+\frac{1}{8}$	$-\frac{25}{192}$	$+\frac{3}{16}$	$+\frac{49}{192}$
x^5			$-\frac{5}{32}$	$+\frac{45}{256}$		$-\frac{5}{32}$	$-\frac{1}{32}$	$-\frac{25}{256}$	$-\frac{5}{64}$	$-\frac{35}{256}$
x^6				$+\frac{3}{64}$		$+\frac{3}{32}$		$+\frac{9}{64}$	$+\frac{1}{64}$	$+\frac{3}{64}$
x^7				$-\frac{21}{128}$				$-\frac{7}{128}$		$-\frac{1}{128}$

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Table (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix} f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^0$				$[\ ]^1$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^0	[cos + sin]	− 1	0	0	0	+ 1	− 1	$+\frac{7}{64}$	$-\frac{5}{288}$
	[cos − sin]	,,	,,	,,	,,	0	$-\frac{1}{8}$	$+\frac{1}{48}$	$+\frac{37}{3072}$
	[cos]	− 1	0	0	0	H	$-\frac{9}{16}$	$+\frac{25}{384}$	$-\frac{49}{18432}$
	[sin]	0	0	0	0	H	$-\frac{7}{16}$	$+\frac{17}{384}$	$-\frac{271}{18432}$
x^1	[cos + sin]	$-\frac{1}{2}$	0	0	0		$+\frac{1}{2}$	$-\frac{1}{8}$	$-\frac{1}{128}$
	[cos − sin]	,,	,,	,,	,,		$+\frac{1}{4}$	$+\frac{1}{48}$	$+\frac{19}{1536}$
	[cos]	$-\frac{1}{2}$	0	0	0		$+\frac{3}{8}$	$-\frac{5}{96}$	$+\frac{7}{3072}$
	[sin]	0	0	0	0		$+\frac{1}{8}$	$-\frac{7}{96}$	$-\frac{31}{3072}$
x^2	[cos + sin]		$-\frac{1}{2}$	0	0		$+\frac{1}{2}$	$-\frac{1}{4}$	$+\frac{5}{384}$
	[cos − sin]		,,	,,	,,		$+\frac{1}{4}$	$-\frac{1}{16}$	$+\frac{5}{512}$
	[cos]		$-\frac{1}{2}$	0	0		$+\frac{3}{8}$	$-\frac{5}{32}$	$+\frac{35}{3072}$
	[sin]		0	0	0		$+\frac{1}{8}$	$-\frac{3}{32}$	$+\frac{5}{3072}$
x^3	[cos + sin]		$-\frac{3}{8}$	0	0			$+\frac{3}{8}$	$-\frac{1}{16}$
	[cos − sin]		,,	,,	,,			$+\frac{1}{4}$	$+\frac{1}{128}$
	[cos]		$-\frac{3}{8}$	0	0			$+\frac{5}{16}$	$-\frac{7}{256}$
	[sin]		0	0	0			$+\frac{1}{16}$	$-\frac{9}{256}$

N.B.—In all the Tables H, H, in the third and fourth lines of a set of four lines, denote one half of the number above them in the first line. The terms $[\cos - \sin]^0$, denoted by ,, ,, ... are the same as the terms $[\cos + \sin]^0$ immediately above them.

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... *Table* $(x^0, x^1, x^2, x^3)\begin{matrix}\cos\\ \sin\end{matrix} f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	[ ]^2			[ ]^3			[ ]^4		
		e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
x^0	[cos + sin]	$+1$	$-\frac{5}{4}$	$+\frac{17}{48}$	$-\frac{7}{144}$	$+\frac{9}{8}$	$-\frac{27}{16}$	$+\frac{768}{1024}$	$+\frac{4}{3}$	$-\frac{7}{3}$	$+\frac{83}{60}$
	[cos − sin]	0	$-\frac{1}{12}$	$+\frac{1}{48}$	$+\frac{1}{240}$	0	$-\frac{9}{128}$	$+\frac{9}{320}$	0	$-\frac{1}{15}$	$+\frac{7}{180}$
	[cos]	H	$-\frac{2}{3}$	$+\frac{3}{16}$	$-\frac{1}{45}$	H	$-\frac{225}{256}$	$+\frac{3969}{10240}$	H	$-\frac{6}{5}$	$+\frac{32}{45}$
	[sin]	H	$-\frac{7}{12}$	$+\frac{1}{6}$	$-\frac{19}{720}$	H	$-\frac{207}{256}$	$+\frac{3681}{10240}$	H	$-\frac{17}{15}$	$+\frac{121}{180}$
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{7}{8}$	$-\frac{29}{96}$	$+\frac{5}{144}$	$-\frac{3}{4}$	$+\frac{21}{16}$	$-\frac{327}{512}$	-1	$+\frac{23}{12}$	$-\frac{289}{240}$
	[cos − sin]	0	$+\frac{1}{8}$	$-\frac{1}{96}$	$+\frac{1}{240}$	0	$+\frac{3}{32}$	$-\frac{33}{1280}$	0	$+\frac{1}{12}$	$-\frac{29}{720}$
	[cos]	H	$+\frac{1}{2}$	$-\frac{5}{32}$	$+\frac{7}{360}$	H	$+\frac{45}{64}$	$-\frac{1701}{5120}$	H	$+1$	$-\frac{28}{45}$
	[sin]	H	$+\frac{3}{8}$	$-\frac{7}{48}$	$+\frac{11}{720}$	H	$+\frac{39}{64}$	$-\frac{1569}{5120}$	H	$+\frac{11}{12}$	$-\frac{419}{720}$
x^2	[cos + sin]		0	$-\frac{1}{12}$	$+\frac{1}{32}$	$+\frac{1}{4}$	$-\frac{7}{16}$	$+\frac{73}{512}$	$+\frac{1}{2}$	$-\frac{23}{24}$	$+\frac{257}{480}$
	[cos − sin]		0	$-\frac{1}{24}$	$+\frac{1}{480}$	0	$-\frac{1}{32}$	$-\frac{5}{256}$	0	$-\frac{1}{24}$	$-\frac{1}{480}$
	[cos]		0	$-\frac{1}{16}$	$+\frac{1}{60}$	H	$-\frac{15}{64}$	$+\frac{63}{1024}$	H	$-\frac{1}{2}$	$+\frac{4}{15}$
	[sin]		0	$-\frac{1}{48}$	$+\frac{7}{480}$	H	$-\frac{13}{64}$	$+\frac{83}{1024}$	H	$-\frac{11}{24}$	$+\frac{43}{160}$
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{7}{16}$	$-\frac{7}{64}$		$-\frac{1}{4}$	$+\frac{51}{128}$	$-\frac{1}{8}$	$+\frac{1}{32}$	$+\frac{33}{128}$
	[cos − sin]		$-\frac{1}{8}$	$+\frac{1}{8}$	$-\frac{1}{64}$		$-\frac{1}{16}$	$+\frac{3}{32}$	0	$-\frac{1}{32}$	$+\frac{29}{384}$
	[cos]		$-\frac{1}{4}$	$+\frac{9}{32}$	$-\frac{1}{16}$		$-\frac{5}{32}$	$+\frac{63}{256}$	H	0	$+\frac{1}{6}$
	[sin]		$-\frac{1}{8}$	$+\frac{5}{32}$	$-\frac{3}{64}$		$-\frac{3}{32}$	$+\frac{39}{256}$	H	$+\frac{1}{32}$	$+\frac{35}{384}$

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix} f$.

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	[ ]^5		[ ]^6		[ ]^7	[ ]^8
		e^4	e^6	e^5	e^7	e^7	e^7
x^0	[cos + sin]	$+\frac{625}{384}$	$-\frac{625}{192}$	$+\frac{81}{40}$	$-\frac{729}{160}$	$+\frac{117649}{46080}$	$+\frac{1024}{315}$
	[cos − sin]	0	$-\frac{625}{9216}$	0	$-\frac{81}{1120}$	0	0
	[cos]	H	$-\frac{30625}{18432}$	H	$-\frac{81}{35}$	H	H
	[sin]	H	$-\frac{29375}{18432}$	H	$-\frac{2511}{1120}$	H	H
x^1	[cos + sin]	$-\frac{125}{96}$	$+\frac{2125}{768}$	$-\frac{27}{16}$	$+\frac{1269}{320}$	$-\frac{16807}{7680}$	$-\frac{128}{45}$
	[cos − sin]	0	$+\frac{125}{1536}$	0	$+\frac{27}{320}$	0	0
	[cos]	H	$+\frac{4375}{3072}$	H	$+\frac{81}{40}$	H	H
	[sin]	H	$+\frac{1375}{1024}$	H	$+\frac{621}{320}$	H	H
x^2	[cos + sin]	$+\frac{25}{32}$	$-\frac{425}{256}$	$+\frac{9}{8}$	$-\frac{423}{160}$	$+\frac{2401}{1536}$	$+\frac{32}{15}$
	[cos − sin]	0	$-\frac{25}{512}$	0	$-\frac{9}{160}$	0	0
	[cos]	H	$-\frac{875}{1024}$	H	$-\frac{27}{20}$	H	H
	[sin]	H	$-\frac{825}{1024}$	H	$-\frac{207}{160}$	H	H
x^3	[cos + sin]	$-\frac{5}{16}$	$+\frac{15}{32}$	$-\frac{9}{16}$	$+\frac{9}{8}$	$-\frac{343}{384}$	$-\frac{4}{3}$
	[cos − sin]	0	$-\frac{5}{384}$	0	0	0	0
	[cos]	H	$+\frac{175}{768}$	H	H	H	H
	[sin]	H	$+\frac{185}{768}$	H	H	H	H

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Table $(x^4, z^5, x^6, x^7) \begin{matrix}\cos\\ \sin\end{matrix} f \ldots$

$\begin{matrix}\cos\\ \sin\end{matrix} f$	[ ]^0				[ ]^1			
	e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^4 [cos + sin]			$-\frac{3}{8}$	0			$+\frac{3}{8}$	$-\frac{1}{8}$
x^4 [cos − sin]			,,	,,			$+\frac{1}{4}$	$-\frac{5}{128}$
x^4 [cos]			$-\frac{3}{8}$	0			$+\frac{5}{16}$	$-\frac{21}{256}$
x^4 [sin]			0	0			$+\frac{1}{16}$	$-\frac{11}{256}$
x^5 [cos + sin]			$-\frac{5}{16}$	0				$+\frac{5}{16}$
x^5 [cos − sin]			,,	,,				$+\frac{15}{64}$
x^5 [cos]			$-\frac{5}{16}$	0				$+\frac{35}{128}$
x^5 [sin]			0	0				$+\frac{5}{128}$
x^6 [cos + sin]				$-\frac{5}{16}$				$+\frac{5}{16}$
x^6 [cos − sin]				,,				$+\frac{15}{64}$
x^6 [cos]				$-\frac{5}{16}$				$+\frac{35}{128}$
x^6 [sin]				0				$+\frac{5}{128}$
x^7 [cos + sin]				$-\frac{35}{128}$				
x^7 [cos − sin]				,,				
x^7 [cos]				$-\frac{35}{128}$				
x^7 [sin]				0				

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix} f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^2$			$[\ ]^3$			$[\ ]^4$		
		e	e^3	e^5 e^7	e^2	e^4	e^6	e^3	e^5	e^7
x^4	[cos + sin]			$-\frac{1}{8}$ $+\frac{1}{64}$		$+\frac{1}{4}$	$-\frac{51}{128}$		$+\frac{5}{16}$	$-\frac{9}{16}$
	[cos − sin]			$-\frac{1}{16}$ $-\frac{1}{64}$		$+\frac{1}{16}$	$-\frac{3}{32}$		$+\frac{1}{16}$	$-\frac{5}{48}$
	[cos]			$-\frac{3}{32}$ 0		$+\frac{5}{32}$	$-\frac{63}{256}$		$+\frac{3}{16}$	$-\frac{1}{3}$
	[sin]			$-\frac{1}{32}$ $+\frac{1}{64}$		$+\frac{3}{32}$	$-\frac{39}{256}$		$+\frac{1}{8}$	$-\frac{11}{48}$
x^5	[cos + sin]			$-\frac{5}{16}$ $+\frac{35}{128}$			$-\frac{5}{64}$		$-\frac{5}{32}$	$+\frac{7}{32}$
	[cos − sin]			$-\frac{5}{32}$ $+\frac{13}{128}$			$-\frac{1}{32}$		$-\frac{1}{32}$	$+\frac{1}{32}$
	[cos]			$-\frac{15}{64}$ $+\frac{3}{16}$			$-\frac{7}{128}$		$-\frac{3}{32}$	$+\frac{1}{8}$
	[sin]			$-\frac{5}{64}$ $+\frac{11}{128}$			$-\frac{3}{128}$		$-\frac{1}{16}$	$+\frac{3}{32}$
x^6	[cos + sin]			$-\frac{5}{32}$			$+\frac{15}{64}$			$+\frac{3}{16}$
	[cos − sin]			$-\frac{3}{32}$			$+\frac{3}{32}$			$+\frac{1}{16}$
	[cos]			$-\frac{1}{8}$			$+\frac{21}{128}$			$+\frac{1}{8}$
	[sin]			$-\frac{1}{32}$			$+\frac{9}{128}$			$+\frac{1}{16}$
x^7	[cos + sin]			$-\frac{35}{128}$						$-\frac{21}{128}$
	[cos − sin]			$-\frac{21}{128}$						$-\frac{7}{128}$
	[cos]			$-\frac{7}{32}$						$-\frac{7}{64}$
	[sin]			$-\frac{7}{128}$						$-\frac{7}{128}$

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix} f$.

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^5$		$[\ ]^6$		$[\ ]^7$	$[\ ]^8$
		e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]	$+\frac{1}{16}$	$+\frac{7}{32}$	$+\frac{3}{16}$	$-\frac{3}{64}$	$+\frac{49}{128}$	$+\frac{2}{3}$
	[cos − sin]	0	$+\frac{7}{128}$	0	$+\frac{3}{64}$	0	0
	[cos]	H	$+\frac{35}{256}$	H	0	H	H
	[sin]	H	$+\frac{21}{256}$	H	$-\frac{3}{64}$	H	H
x^5	[cos + sin]		$-\frac{9}{32}$	$-\frac{1}{32}$	$-\frac{41}{128}$	$-\frac{7}{64}$	$-\frac{1}{4}$
	[cos − sin]		$-\frac{3}{64}$	0	$-\frac{7}{128}$	0	0
	[cos]		$-\frac{21}{128}$	H	$-\frac{3}{16}$	H	H
	[sin]		$-\frac{15}{128}$	H	$-\frac{17}{128}$	H	H
x^6	[cos + sin]		$+\frac{3}{32}$		$+\frac{7}{32}$	$+\frac{1}{64}$	$+\frac{1}{16}$
	[cos − sin]		$+\frac{1}{64}$		$+\frac{1}{32}$	0	0
	[cos]		$+\frac{7}{128}$		$+\frac{1}{8}$	H	H
	[sin]		$+\frac{5}{128}$		$+\frac{3}{32}$	H	H
x^7	[cos + sin]				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]				$-\frac{1}{128}$		0
	[cos]				$-\frac{1}{32}$		H
	[sin]				$-\frac{3}{128}$		H

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Table $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^0$			$[\ ]^1$				$[\ ]^2$			
		e^2	e^4	e^6	e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^0	[cos + sin]	$+\frac{3}{4}$	$+\frac{1}{8}$	$+\frac{3}{64}$	-2	$+\frac{7}{4}$	$-\frac{5}{96}$	$+\frac{271}{4608}$	$+1$	-4	$+\frac{55}{16}$	$-\frac{103}{144}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{12}$	$+\frac{5}{192}$	$+\frac{49}{7680}$	0	0	$+\frac{1}{24}$	$+\frac{1}{60}$
	[cos]	$+\frac{3}{4}$	$+\frac{1}{8}$	$+\frac{3}{64}$	H	$+\frac{11}{12}$	$-\frac{5}{384}$	$+\frac{751}{23040}$	H	H	$+\frac{167}{96}$	$-\frac{503}{1440}$
	[sin]	0	0	0	H	$+\frac{5}{6}$	$-\frac{5}{128}$	$+\frac{151}{5760}$	H	H	$+\frac{163}{96}$	$-\frac{527}{1440}$
x	[cos + sin]	$+\frac{3}{4}$	$-\frac{1}{8}$	$-\frac{3}{64}$	$-\frac{1}{2}$	$+\frac{5}{16}$	$-\frac{53}{384}$	$-\frac{203}{18432}$		$+\frac{1}{2}$	$-\frac{1}{2}$	$-\frac{1}{32}$
	[cos − sin]	,,	,,	,,	0	$-\frac{1}{16}$	$-\frac{61}{768}$	$-\frac{271}{6144}$		0	$-\frac{1}{48}$	$-\frac{17}{480}$
	[cos]	$+\frac{3}{4}$	$-\frac{1}{8}$	$-\frac{3}{64}$	H	$+\frac{1}{8}$	$-\frac{167}{1536}$	$-\frac{127}{4608}$		H	$-\frac{25}{96}$	$-\frac{1}{30}$
	[sin]	0	0	0	H	$+\frac{3}{16}$	$-\frac{15}{512}$	$+\frac{305}{18432}$		H	$-\frac{23}{96}$	$+\frac{1}{480}$
x^2	[cos + sin]	$+\frac{1}{4}$	$+\frac{1}{8}$	$+\frac{3}{64}$		$-\frac{3}{4}$	$+\frac{17}{48}$	$+\frac{19}{512}$		$+\frac{1}{2}$	-1	$+\frac{53}{96}$
	[cos − sin]	,,	,,	,,		$-\frac{1}{4}$	$+\frac{1}{96}$	$+\frac{83}{7680}$		0	$-\frac{1}{16}$	$+\frac{1}{32}$
	[cos]	$+\frac{1}{4}$	$+\frac{1}{8}$	$+\frac{3}{64}$		$-\frac{1}{2}$	$+\frac{35}{192}$	$+\frac{23}{960}$		H	$-\frac{17}{32}$	$+\frac{7}{24}$
	[sin]	0	0	0		$-\frac{1}{4}$	$+\frac{11}{64}$	$+\frac{101}{7680}$		H	$-\frac{15}{32}$	$+\frac{25}{96}$
x^3	[cos + sin]		$+\frac{1}{2}$	$-\frac{3}{64}$		$-\frac{3}{8}$	$+\frac{5}{32}$	$-\frac{49}{1024}$			$+\frac{3}{8}$	$-\frac{1}{4}$
	[cos − sin]		,,	,,		$-\frac{1}{8}$	$-\frac{1}{64}$	$-\frac{39}{1024}$			$+\frac{1}{16}$	0
	[cos]		$+\frac{1}{2}$	$-\frac{3}{64}$		$-\frac{1}{4}$	$+\frac{9}{128}$	$-\frac{11}{256}$			$+\frac{7}{32}$	$-\frac{1}{8}$
	[sin]		0	0		$-\frac{1}{8}$	$+\frac{11}{128}$	$-\frac{5}{1024}$			$+\frac{5}{32}$	$-\frac{1}{8}$

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $2f$ ...

$\begin{matrix}\cos\\ \sin\end{matrix}$ $2f$		$[\ ]^3$				$[\ ]^4$			$[\ ]^5$		
		e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
x^0	[cos + sin]	$+2$	$-\frac{27}{4}$	$+\frac{207}{32}$	$-\frac{1147}{512}$	$+\frac{13}{4}$	$-\frac{259}{24}$	$+\frac{559}{48}$	$+\frac{59}{12}$	$-\frac{3221}{192}$	$+\frac{31087}{1536}$
	[cos − sin]	0	0	$+\frac{9}{320}$	$+\frac{27}{2560}$	0	0	$+\frac{1}{45}$	0	0	$+\frac{625}{32256}$
	[cos]	H	H	$+\frac{2079}{640}$	$-\frac{1427}{1280}$	H	H	$+\frac{8401}{1440}$	H	H	$+\frac{163363}{16128}$
	[sin]	H	H	$+\frac{2061}{640}$	$-\frac{2881}{2560}$	H	H	$+\frac{8369}{1440}$	H	H	$+\frac{326101}{32256}$
x	[cos + sin]	$-\frac{1}{2}$	$+\frac{33}{16}$	$-\frac{255}{128}$	$+\frac{1081}{2048}$	$-\frac{5}{4}$	$+\frac{107}{24}$	$-\frac{229}{48}$	$-\frac{37}{16}$	$+\frac{6259}{768}$	$-\frac{59723}{6144}$
	[cos − sin]	0	0	$-\frac{3}{256}$	$-\frac{231}{10240}$	0	0	$-\frac{1}{120}$	0	0	$-\frac{125}{18432}$
	[cos]	H	H	$-\frac{513}{512}$	$+\frac{2587}{10240}$	H	H	$-\frac{1147}{480}$	H	H	$-\frac{89647}{18432}$
	[sin]	H	H	$-\frac{507}{512}$	$+\frac{1409}{5120}$	H	H	$-\frac{381}{160}$	H	H	$-\frac{44761}{9216}$
x^2	[cos + sin]		$+\frac{1}{4}$	$-\frac{13}{16}$	$+\frac{367}{512}$	$+\frac{1}{4}$	$-\frac{5}{8}$	0	$+\frac{3}{4}$	$-\frac{223}{96}$	$+\frac{2987}{1536}$
	[cos − sin]		0	$-\frac{1}{32}$	$+\frac{71}{2560}$	0	0	$-\frac{1}{48}$	0	0	$-\frac{25}{1536}$
	[cos]		H	$-\frac{27}{64}$	$+\frac{953}{2560}$	H	H	$-\frac{1}{96}$	H	H	$+\frac{1481}{1536}$
	[sin]		H	$-\frac{25}{64}$	$+\frac{441}{1280}$	H	H	$+\frac{1}{96}$	H	H	$+\frac{251}{256}$
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{33}{32}$	$-\frac{753}{1024}$		$-\frac{1}{2}$	$+\frac{95}{64}$	$-\frac{1}{8}$	$-\frac{13}{64}$	$+\frac{1577}{1024}$
	[cos − sin]		0	$+\frac{3}{64}$	$-\frac{13}{1024}$		0	$+\frac{7}{192}$	0	0	$+\frac{95}{3072}$
	[cos]		H	$+\frac{69}{128}$	$-\frac{383}{1024}$		H	$+\frac{73}{96}$	H	H	$+\frac{2413}{3072}$
	[sin]		H	$+\frac{63}{128}$	$-\frac{185}{512}$		H	$+\frac{139}{192}$	H	H	$+\frac{1159}{1536}$

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... *Table* $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 2f$.

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^6$		$[\ ]^7$		$[\ ]^8$	$[\ ]^9$
		e^4	e^6	e^5	e^7	e^6	e^7
x^0	[cos + sin]	$+\frac{115}{16}$	$-\frac{2049}{80}$	$+\frac{9893}{960}$	$-\frac{889303}{23040}$	$+\frac{42037}{2880}$	$+\frac{367439}{17920}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x	[cos + sin]	$-\frac{61}{16}$	$+\frac{69}{5}$	$-\frac{4553}{768}$	$+\frac{2061389}{92160}$	$-\frac{8551}{960}$	$-\frac{26809}{2048}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^2	[cos + sin]	$+\frac{25}{16}$	$-\frac{21}{4}$	$+\frac{269}{96}$	$-\frac{77143}{7680}$	$+\frac{297}{64}$	$+\frac{18749}{2560}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^3	[cos + sin]	$-\frac{7}{16}$	$+\frac{3}{4}$	$-\frac{65}{64}$	$+\frac{8425}{3072}$	$-\frac{379}{192}$	$-\frac{3563}{1024}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table $(x^4, x^5, x^6, x^7) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^0$		$[\ ]^1$			$[\ ]^2$			
		e^2	e^4	e^6	e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^4	[cos + sin]		$+\frac{1}{4}$	$+\frac{3}{64}$			$-\frac{1}{2}$	$+\frac{5}{32}$			$+\frac{3}{8}$	$-\frac{1}{2}$
	[cos − sin]		,,	,,			$-\frac{1}{4}$	0			$+\frac{1}{16}$	$-\frac{1}{16}$
	[cos]		$+\frac{1}{4}$	$+\frac{3}{64}$			$-\frac{3}{8}$	$+\frac{5}{64}$			$+\frac{7}{32}$	$-\frac{9}{32}$
	[sin]		0	0			$-\frac{1}{8}$	$+\frac{5}{64}$			$+\frac{5}{32}$	$-\frac{7}{32}$
x^5	[cos + sin]			$+\frac{25}{64}$			$-\frac{5}{16}$	$+\frac{25}{256}$				$+\frac{5}{16}$
	[cos − sin]			,,			$-\frac{5}{32}$	$-\frac{1}{256}$				$+\frac{3}{32}$
	[cos]			$+\frac{25}{64}$			$-\frac{15}{64}$	$+\frac{3}{64}$				$+\frac{13}{64}$
	[sin]			0			$-\frac{5}{64}$	$+\frac{13}{256}$				$+\frac{7}{64}$
x^6	[cos + sin]			$+\frac{15}{64}$				$-\frac{25}{64}$				$+\frac{5}{16}$
	[cos − sin]			,,				$-\frac{15}{64}$				$+\frac{3}{32}$
	[cos]			$+\frac{15}{64}$				$-\frac{5}{16}$				$+\frac{13}{64}$
	[sin]			0				$-\frac{5}{64}$				$+\frac{7}{64}$
x^7	[cos + sin]							$-\frac{35}{128}$				
	[cos − sin]							$-\frac{21}{128}$				
	[cos]							$-\frac{7}{32}$				
	[sin]							$-\frac{7}{128}$				

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... *Table* $(x^4, x^5, x^6, x^7)\begin{matrix}\cos\\ \sin\end{matrix} 2f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^3$			$[\ ]^4$			$[\ ]^5$		
		e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
x^4	[cos + sin]			0	$-\frac{3}{16}$		$+\frac{1}{4}$	$-\frac{43}{64}$		$+\frac{1}{2}$	$-\frac{47}{32}$
	[cos − sin]			0	$-\frac{1}{32}$		0	$-\frac{1}{64}$		0	$-\frac{1}{48}$
	[cos]			0	$-\frac{7}{64}$		H	$-\frac{11}{32}$		H	$-\frac{143}{192}$
	[sin]			0	$-\frac{5}{64}$		H	$-\frac{21}{64}$		H	$-\frac{139}{192}$
x^5	[cos + sin]			$-\frac{5}{16}$	$+\frac{165}{256}$			$-\frac{15}{64}$		$-\frac{5}{32}$	$+\frac{59}{256}$
	[cos − sin]			$-\frac{1}{32}$	$+\frac{17}{256}$			$-\frac{1}{64}$		0	$-\frac{1}{256}$
	[cos]			$-\frac{11}{64}$	$+\frac{91}{256}$			$-\frac{1}{8}$		H	$+\frac{29}{256}$
	[sin]			$-\frac{9}{64}$	$+\frac{37}{128}$			$-\frac{7}{64}$		H	$+\frac{15}{128}$
x^6	[cos + sin]				$-\frac{5}{64}$			$+\frac{15}{64}$			$+\frac{21}{64}$
	[cos − sin]				$-\frac{1}{64}$			$+\frac{1}{64}$			$+\frac{1}{64}$
	[cos]				$-\frac{3}{64}$			$+\frac{1}{8}$			$+\frac{11}{64}$
	[sin]				$-\frac{1}{32}$			$+\frac{7}{64}$			$+\frac{5}{32}$
x^7	[cos + sin]				$-\frac{35}{128}$						$-\frac{21}{128}$
	[cos − sin]				$-\frac{7}{128}$						$-\frac{1}{128}$
	[cos]				$-\frac{21}{128}$						$-\frac{11}{128}$
	[sin]				$-\frac{7}{64}$						$-\frac{5}{64}$

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $2f$.

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $2f$	$[\ ]^6$		$[\ ]^7$		$[\ ]^8$	$[\ ]^9$
		e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]	$+\frac{1}{16}$	$+\frac{9}{16}$	$+\frac{1}{4}$	$+\frac{5}{24}$	$+\frac{41}{64}$	$+\frac{43}{32}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^5	[cos + sin]		$-\frac{13}{32}$	$-\frac{1}{32}$	$-\frac{163}{256}$	$-\frac{9}{64}$	$-\frac{101}{256}$
	[cos − sin]		0	0	0	0	0
	[cos]		H	H	H	H	H
	[sin]		H	H	H	H	H
x^6	[cos + sin]		$+\frac{3}{32}$		$+\frac{19}{64}$	$+\frac{1}{64}$	$+\frac{5}{64}$
	[cos − sin]		0		0	0	0
	[cos]		H		H	H	H
	[sin]		H		H	H	H
x^7	[cos + sin]				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]				0		0
	[cos]				H		H
	[sin]				H		H

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Table (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $3f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$	$[\ ]^0$			$[\ ]^1$			$[\ ]^2$			
		e^3	e^5	e^7	e^2	e^4	e^6	e	e^3	e^5	e^7
x^0	[cos + sin]	$-\frac{1}{2}$	$-\frac{3}{16}$	$-\frac{3}{32}$	$+\frac{21}{8}$	$-\frac{31}{16}$	$-\frac{103}{1024}$	-3	$+\frac{33}{4}$	$-\frac{89}{16}$	$+\frac{163}{192}$
	[cos − sin]	,,	,,	,,	0	$-\frac{5}{128}$	$-\frac{11}{320}$	0	0	$-\frac{1}{80}$	$-\frac{17}{960}$
	[cos]	$-\frac{1}{2}$	$-\frac{3}{16}$	$-\frac{3}{32}$	H	$-\frac{253}{256}$	$-\frac{691}{10240}$	H	H	$-\frac{223}{80}$	$+\frac{133}{320}$
	[sin]	0	0	0	H	$-\frac{243}{256}$	$-\frac{339}{10240}$	H	H	$-\frac{111}{40}$	$+\frac{13}{30}$
x^1	[cos + sin]	$-\frac{3}{4}$	$+\frac{1}{32}$	$+\frac{3}{64}$	$+\frac{5}{4}$	$-\frac{61}{48}$	$+\frac{129}{512}$	$-\frac{1}{2}$	$+\frac{9}{8}$	$-\frac{125}{96}$	$+\frac{709}{1152}$
	[cos − sin]	,,	,,	,,	0	$-\frac{1}{96}$	$+\frac{59}{1280}$	0	0	$-\frac{1}{96}$	$+\frac{89}{5760}$
	[cos]	$-\frac{3}{4}$	$+\frac{1}{32}$	$+\frac{3}{64}$	H	$-\frac{41}{64}$	$+\frac{763}{5120}$	H	H	$-\frac{21}{32}$	$+\frac{1817}{5760}$
	[sin]	0	0	0	H	$-\frac{121}{192}$	$+\frac{527}{5120}$	H	H	$-\frac{31}{48}$	$+\frac{3}{10}$
x^2	[cos + sin]	$-\frac{1}{2}$	$+\frac{1}{8}$	0	$+\frac{1}{4}$	$+\frac{5}{16}$	$-\frac{85}{1536}$		-1	$+\frac{19}{12}$	$-\frac{49}{96}$
	[cos − sin]	,,	,,	,,	0	$+\frac{5}{32}$	$+\frac{53}{768}$		0	$+\frac{1}{24}$	$+\frac{7}{480}$
	[cos]	$-\frac{1}{2}$	$+\frac{1}{8}$	0	H	$+\frac{15}{64}$	$+\frac{7}{1024}$		H	$+\frac{13}{16}$	$-\frac{119}{480}$
	[sin]	0	0	0	H	$+\frac{5}{64}$	$-\frac{191}{3072}$		H	$+\frac{37}{48}$	$-\frac{21}{80}$
x^3	[cos + sin]	$-\frac{1}{8}$	$-\frac{9}{32}$	$-\frac{3}{64}$		$+\frac{3}{4}$	$-\frac{65}{128}$		$-\frac{3}{8}$	$+\frac{9}{16}$	$-\frac{61}{128}$
	[cos − sin]	,,	,,	,,		$+\frac{3}{16}$	$-\frac{1}{32}$		0	0	$-\frac{5}{128}$
	[cos]	$-\frac{1}{8}$	$-\frac{9}{32}$	$-\frac{3}{64}$		$+\frac{15}{32}$	$-\frac{69}{256}$		H	H	$-\frac{33}{128}$
	[sin]	0	0	0		$+\frac{9}{32}$	$-\frac{61}{256}$		H	H	$-\frac{7}{32}$

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$	$[\ ]^3$				$[\ ]^4$				$[\ ]^5$		
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7	e^2	e^4	e^6
x^0	[cos + sin]	$+1$	-9	$+\frac{1215}{64}$	$-\frac{449}{32}$	$+3$	$-\frac{39}{2}$	$+\frac{155}{4}$	$-\frac{767}{24}$	$+\frac{51}{8}$	$-\frac{593}{16}$	$+\frac{75643}{1024}$
	[cos − sin]	0	0	0	$-\frac{27}{5120}$	0	0	0	$-\frac{1}{420}$	0	0	0
	[cos]	H	H	H	$-\frac{71867}{10240}$	H	H	H	$-\frac{8949}{560}$	H	H	H
	[sin]	H	H	H	$-\frac{71813}{10240}$	H	H	H	$-\frac{26843}{1680}$	H	H	H
x^1	[cos + sin]		$+\frac{1}{2}$	$-\frac{9}{8}$	$-\frac{9}{128}$	$-\frac{1}{2}$	$+\frac{15}{4}$	$-\frac{173}{24}$	$+\frac{161}{36}$	$-\frac{7}{4}$	$+\frac{509}{48}$	$-\frac{10439}{512}$
	[cos − sin]		0	0	$-\frac{21}{2560}$	0	0	0	$-\frac{1}{144}$	0	0	0
	[cos]		H	H	$-\frac{201}{5120}$	H	H	H	$+\frac{643}{288}$	H	H	H
	[sin]		H	H	$-\frac{159}{5120}$	H	H	H	$+\frac{215}{96}$	H	H	H
x^2	[cos + sin]		$+\frac{1}{2}$	$-\frac{9}{4}$	$+\frac{399}{128}$		$+\frac{1}{2}$	$-\frac{8}{3}$	$+\frac{437}{96}$	$+\frac{1}{4}$	$-\frac{13}{16}$	$-\frac{1393}{1536}$
	[cos − sin]		0	0	$+\frac{11}{512}$		0	0	$+\frac{7}{480}$	0	0	0
	[cos]		H	H	$+\frac{1607}{1024}$		H	H	$+\frac{137}{60}$	H	H	H
	[sin]		H	H	$+\frac{1585}{1024}$		H	H	$+\frac{363}{160}$	H	H	H
x^3	[cos + sin]			$+\frac{3}{8}$	$-\frac{9}{16}$		$-\frac{3}{8}$	$+\frac{15}{8}$	$-\frac{343}{128}$		$-\frac{3}{4}$	$+\frac{469}{128}$
	[cos − sin]			0	$-\frac{1}{128}$		0	0	$-\frac{1}{128}$		0	0
	[cos]			H	$-\frac{73}{256}$		H	H	$-\frac{43}{32}$		H	H
	[sin]			H	$-\frac{71}{256}$		H	H	$-\frac{171}{128}$		H	H

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$.

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$	$[\ ]^6$			$[\ ]^7$		$[\ ]^8$		$[\ ]^9$	$[\ ]^{10}$
		e^3	e^5	e^7	e^4	e^6	e^5	e^7	e^6	e^7
x^0	[cos + sin]	$+\frac{47}{4}$	$-\frac{525}{8}$	$+\frac{43041}{320}$	$+\frac{2567}{128}$	$-\frac{35563}{320}$	$+\frac{2611}{80}$	$-\frac{87599}{480}$	$+\frac{263351}{5120}$	$+\frac{106469}{1344}$
	[cos − sin]	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{33}{8}$	$+\frac{373}{16}$	$-\frac{5919}{128}$	$-\frac{787}{96}$	$+\frac{58143}{1280}$	$-\frac{1423}{96}$	$+\frac{237373}{2880}$	$-\frac{64653}{2560}$	$-\frac{47603}{1152}$
	[cos − sin]	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H
x^2	[cos + sin]	$+1$	$-\frac{37}{8}$	$+\frac{891}{160}$	$+\frac{83}{32}$	$-\frac{9871}{768}$	$+\frac{133}{24}$	$-\frac{857}{30}$	$+\frac{5431}{512}$	$+\frac{1817}{96}$
	[cos − sin]	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H
x^3	[cos + sin]	$-\frac{1}{8}$	$-\frac{9}{16}$	$+\frac{627}{128}$	$-\frac{9}{16}$	$+\frac{35}{32}$	$-\frac{51}{32}$	$+\frac{367}{64}$	$-\frac{467}{128}$	$-\frac{945}{128}$
	[cos − sin]	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H

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Table $(x^4, x^5, x^6, x^7)\ \begin{matrix}\cos\\ \sin\end{matrix}\ 3f\ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix}\ 3f$	$[\ ]^0$ e^3	e^5	e^7	$[\ ]^1$ e^2	e^4	e^6	$[\ ]^2$ e	e^3	e^5	e^7
x^4	[cos + sin]		$-\frac{7}{16}$	$+\frac{3}{32}$		$+\frac{1}{4}$	$+\frac{9}{128}$			$-\frac{5}{8}$	$+\frac{43}{64}$
	[cos − sin]		,,	,,		$+\frac{1}{16}$	$+\frac{3}{32}$			$-\frac{1}{16}$	$+\frac{5}{192}$
	[cos]		$-\frac{7}{16}$	$+\frac{3}{32}$		$+\frac{5}{32}$	$+\frac{21}{256}$			$-\frac{11}{32}$	$+\frac{67}{192}$
	[sin]		0	0		$+\frac{3}{32}$	$-\frac{3}{256}$			$-\frac{9}{32}$	$+\frac{31}{96}$
x^5	[cos + sin]		$-\frac{5}{32}$	$-\frac{9}{64}$			$+\frac{35}{64}$			$-\frac{5}{16}$	$+\frac{45}{128}$
	[cos − sin]		,,	,,			$+\frac{7}{32}$			$-\frac{1}{32}$	$+\frac{1}{128}$
	[cos]		$-\frac{5}{32}$	$-\frac{9}{64}$			$+\frac{49}{128}$			$-\frac{11}{64}$	$+\frac{23}{128}$
	[sin]		0	0			$+\frac{21}{128}$			$-\frac{9}{64}$	$+\frac{11}{64}$
x^6	[cos + sin]			$-\frac{3}{8}$			$+\frac{15}{64}$				$-\frac{15}{32}$
	[cos − sin]			,,			$+\frac{3}{32}$				$-\frac{3}{32}$
	[cos]			$-\frac{3}{8}$			$+\frac{21}{128}$				$-\frac{9}{32}$
	[sin]			0			$+\frac{9}{128}$				$-\frac{3}{16}$
x^7	[cos + sin]			$-\frac{21}{128}$							$-\frac{35}{128}$
	[cos − sin]			,,							$-\frac{7}{128}$
	[cos]			$-\frac{21}{128}$							$-\frac{21}{128}$
	[sin]			0							$-\frac{7}{64}$

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$	$[\ ]^3$			$[\ ]^4$			$[\ ]^5$		
		e^0	e^2	e^4 e^6	e	e^3	e^5 e^7	e^2	e^4	e^6
x^4	[cos + sin]			$+\frac{3}{8}$ $-\frac{9}{8}$			$+\frac{1}{8}$ $-\frac{25}{32}$		$+\frac{1}{4}$	$-\frac{129}{128}$
	[cos − sin]			0 $-\frac{3}{128}$			0 $-\frac{1}{96}$		0	0
	[cos]			H $-\frac{147}{256}$			H $-\frac{19}{48}$		H	H
	[sin]			H $-\frac{141}{256}$			H $-\frac{37}{96}$		H	H
x^5	[cos + sin]			$+\frac{5}{16}$			$-\frac{5}{16}$ $+\frac{75}{64}$			$-\frac{25}{64}$
	[cos − sin]			$+\frac{1}{64}$			0 $+\frac{1}{64}$			0
	[cos]			$+\frac{21}{128}$			H $+\frac{19}{32}$			H
	[sin]			$+\frac{19}{128}$			H $+\frac{37}{64}$			H
x^6	[cos + sin]			$+\frac{5}{16}$			0			$+\frac{15}{64}$
	[cos − sin]			$+\frac{1}{64}$			0			0
	[cos]			$+\frac{21}{128}$			0			H
	[sin]			$+\frac{19}{128}$			0			H
x^7	[cos + sin]						$-\frac{35}{128}$			
	[cos − sin]						$-\frac{1}{128}$			
	[cos]						$-\frac{9}{64}$			
	[sin]						$-\frac{17}{128}$			

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$.

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$	$[\ ]^6$		$[\ ]^7$		$[\ ]^8$		$[\ ]^9$	$[\ ]^{10}$
		e^3	e^5 e^7	e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]		$+\frac{11}{16}$ $-\frac{195}{64}$	$+\frac{1}{16}$	$+\frac{33}{32}$	$+\frac{5}{16}$	$+\frac{67}{96}$	$+\frac{123}{128}$	$+\frac{451}{192}$
	[cos − sin]		0 0	0	0	0	0	0	0
	[cos]		H H	H	H	H	H	H	H
	[sin]		H H	H	H	H	H	H	H
x^5	[cos + sin]		$-\frac{5}{32}$ $+\frac{27}{128}$		$-\frac{17}{32}$	$-\frac{1}{32}$	$-\frac{67}{64}$	$-\frac{11}{64}$	$-\frac{73}{128}$
	[cos − sin]		0 0		0	0	0	0	0
	[cos]		H H		H	H	H	H	H
	[sin]		H H		H	H	H	H	H
x^6	[cos + sin]		$+\frac{15}{32}$		$+\frac{3}{32}$		$+\frac{3}{8}$	$+\frac{1}{64}$	$+\frac{3}{32}$
	[cos − sin]		0		0		0	0	0
	[cos]		H		H		H	H	H
	[sin]		H		H		H	H	H
x^7	[cos + sin]		$-\frac{21}{128}$				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]		0				0		0
	[cos]		H				H		H
	[sin]		H				H		H

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Table $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^0$		$[\ ]^1$				$[\ ]^2$		
		e^4	e^6	e	e^3	e^5	e^7	e^2	e^4	e^6
x^0	[cos + sin]	$+\frac{5}{16}$	$+\frac{3}{16}$	$-\frac{17}{6}$	$+\frac{161}{96}$	$+\frac{907}{3840}$		$+\frac{11}{2}$	$-\frac{149}{12}$	$+\frac{325}{48}$
	[cos − sin]	,,	,,	0	$+\frac{7}{480}$	$+\frac{277}{11520}$		0	0	$+\frac{1}{720}$
	[cos]	$+\frac{5}{16}$	$+\frac{3}{16}$	H	$+\frac{203}{240}$	$+\frac{1499}{11520}$		H	H	$+\frac{1219}{360}$
	[sin]	0	0	H	$+\frac{133}{160}$	$+\frac{611}{5760}$		H	H	$+\frac{2437}{720}$
x^1	[cos + sin]	$+\frac{5}{8}$	$+\frac{3}{32}$	$-\frac{31}{16}$	$+\frac{1447}{768}$	$-\frac{4537}{30720}$		$+\frac{7}{4}$	$-\frac{53}{12}$	$+\frac{743}{192}$
	[cos − sin]	,,	,,	0	$+\frac{19}{768}$	$-\frac{793}{92160}$		0	0	$+\frac{11}{960}$
	[cos]	$+\frac{5}{8}$	$+\frac{3}{32}$	H	$+\frac{733}{768}$	$-\frac{3601}{46080}$		H	H	$+\frac{621}{320}$
	[sin]	0	0	H	$+\frac{119}{128}$	$-\frac{6409}{92160}$		H	H	$+\frac{463}{240}$
x^2	[cos + sin]	$+\frac{5}{8}$	$-\frac{5}{32}$	$-\frac{3}{4}$	$+\frac{53}{96}$	$-\frac{2123}{7680}$		$+\frac{1}{4}$	$+\frac{1}{2}$	$-\frac{49}{64}$
	[cos − sin]	,,	,,	0	$-\frac{7}{96}$	$-\frac{649}{7680}$		0	0	$-\frac{1}{64}$
	[cos]	$+\frac{5}{8}$	$-\frac{5}{32}$	H	$+\frac{23}{96}$	$-\frac{231}{1280}$		H	H	$-\frac{25}{64}$
	[sin]	0	0	H	$+\frac{5}{16}$	$-\frac{737}{7680}$		H	H	$-\frac{3}{8}$
x^3	[cos + sin]	$+\frac{5}{16}$	0	$-\frac{1}{8}$	$-\frac{43}{64}$	$+\frac{389}{1024}$		$+1$		$-\frac{7}{4}$
	[cos − sin]	,,	,,	0	$-\frac{11}{64}$	$-\frac{59}{3072}$		0		$-\frac{1}{48}$
	[cos]	$+\frac{5}{16}$	0	H	$-\frac{27}{64}$	$+\frac{277}{1536}$		H		$-\frac{85}{96}$
	[sin]	0	0	H	$-\frac{1}{4}$	$+\frac{613}{3072}$		H		$-\frac{83}{96}$

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... *Table* $(x^0, x^1, x^2, x^3)\ \begin{matrix}\cos\\ \sin\end{matrix}\ 4f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}\ 4f$	$[\ ]^3$				$[\ ]^4$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^0	[cos + sin]	-4	$+\frac{45}{2}$	$-\frac{591}{16}$	$+\frac{5737}{256}$	$+1$	-16	$+\frac{247}{4}$	$-\frac{3355}{36}$
	[cos − sin]	0	0	0	$-\frac{9}{8960}$	0	0	0	0
	[cos]	H	H	H	$+\frac{100393}{8960}$	H	H	H	H
	[sin]	H	H	H	$+\frac{50201}{4480}$	H	H	H	H
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{39}{16}$	$-\frac{687}{128}$	$+\frac{12355}{2048}$		$+\frac{1}{2}$	-2	$-\frac{1}{8}$
	[cos − sin]	0	0	0	$+\frac{69}{10240}$		0	0	0
	[cos]	H	H	H	$+\frac{15461}{5120}$		H	H	H
	[sin]	H	H	H	$+\frac{30853}{10240}$		H	H	H
x^2	[cos + sin]		$-\frac{5}{4}$	$+\frac{67}{16}$	$-\frac{2119}{512}$		$+\frac{1}{2}$	-4	$+\frac{245}{24}$
	[cos − sin]		0	0	$-\frac{17}{2560}$		0	0	0
	[cos]		H	H	$-\frac{2653}{1280}$		H	H	H
	[sin]		H	H	$-\frac{5289}{2560}$		H	H	H
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{39}{32}$	$-\frac{2037}{1024}$			$+\frac{3}{8}$	-1
	[cos − sin]		0	0	$-\frac{7}{1024}$			0	0
	[cos]		H	H	$-\frac{511}{512}$			H	H
	[sin]		H	H	$-\frac{1015}{1024}$			H	H

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $4f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $4f$	$[\ ]^5$				$[\ ]^6$			$[\ ]^7$		
		e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
x^0	[cos + sin]	$+4$	$-\frac{85}{2}$	$+\frac{6845}{48}$	$-\frac{490585}{2304}$	$+\frac{21}{2}$	$-\frac{377}{4}$	$+\frac{597}{2}$	$+\frac{137}{6}$	$-\frac{18113}{96}$	$+\frac{2249741}{3840}$
	[cos − sin]	0	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{95}{16}$	$-\frac{7325}{384}$	$+\frac{407635}{18432}$	$-\frac{9}{4}$	$+\frac{83}{4}$	$-\frac{4029}{64}$	$-\frac{103}{16}$	$+\frac{40967}{768}$	$-\frac{4894577}{30720}$
	[cos − sin]	0	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H	H
x^2	[cos + sin]		$+\frac{3}{4}$	$-\frac{295}{48}$	$+\frac{8785}{512}$	$+\frac{1}{4}$	-1	$-\frac{215}{64}$	$+\frac{5}{4}$	$-\frac{779}{96}$	$+\frac{103901}{7680}$
	[cos − sin]		0	0	0	0	0	0	0	0	0
	[cos]		H	H	H	H	H	H	H	H	H
	[sin]		H	H	H	H	H	H	H	H	H
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{95}{32}$	$-\frac{7285}{1024}$		-1	$+\frac{117}{16}$	$-\frac{1}{8}$	$-\frac{67}{64}$	$+\frac{12069}{1024}$
	[cos − sin]		0	0	0		0	0	0	0	0
	[cos]		H	H	H		H	H	H	H	H
	[sin]		H	H	H		H	H	H	H	H

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... *Table* $(x^0, x^1, x^2, x^3)\begin{matrix}\cos\\ \sin\end{matrix} 4f$.

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^8$		$[\ ]^9$		$[\ ]^{10}$	$[\ ]^{11}$
		e^4	e^6	e^5	e^7	e^6	e^7
x^0	[cos + sin]	$+\frac{2141}{48}$	$-\frac{84857}{240}$	$+\frac{13011}{160}$	$-\frac{809813}{1280}$	$+\frac{5087}{36}$	$+\frac{19116073}{80640}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{359}{24}$	$+\frac{56527}{480}$	$-\frac{7887}{256}$	$+\frac{2427367}{10240}$	$-\frac{11263}{192}$	$-\frac{9742939}{92160}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^2	[cos + sin]	$+\frac{31}{8}$	$-\frac{855}{32}$	$+\frac{307}{32}$	$-\frac{172907}{2560}$	$+\frac{3995}{192}$	$+\frac{317653}{7680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^3	[cos + sin]	$-\frac{11}{16}$	$+\frac{3}{2}$	$-\frac{147}{64}$	$+\frac{10999}{1024}$	$-\frac{145}{24}$	$-\frac{42325}{3072}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^0$		$[\ ]^1$		$[\ ]^2$		$[\ ]^3$		
		e^4	e^6	e^3	e^5 e^7	e^2	e^4 e^6	e^1	e^3 e^5 e^7	
x^4	[cos + sin]	$+\frac{1}{16}$	$+\frac{3}{8}$	$-\frac{5}{8}$	$+\frac{29}{64}$	$+\frac{1}{4}$	$+\frac{1}{32}$		$-\frac{3}{4}$ $+\frac{111}{64}$	
	[cos − sin]	,,	,,	$-\frac{1}{8}$	$+\frac{1}{192}$	0	$+\frac{1}{32}$		0 $+\frac{1}{64}$	
	[cos]	$+\frac{1}{16}$	$+\frac{3}{8}$	$-\frac{3}{8}$	$+\frac{11}{48}$	H	$+\frac{1}{32}$		H $+\frac{7}{8}$	
	[sin]	0	0	$-\frac{1}{4}$	$+\frac{43}{192}$	H	0		H $+\frac{55}{64}$	
x^5	[cos + sin]		$+\frac{11}{32}$	$-\frac{5}{32}$	$-\frac{79}{256}$		$+\frac{45}{64}$		$-\frac{5}{16}$ $+\frac{195}{256}$	
	[cos − sin]		,,	$-\frac{1}{32}$	$-\frac{37}{256}$		$+\frac{3}{64}$		0 $+\frac{1}{256}$	
	[cos]		$+\frac{11}{32}$	$-\frac{3}{32}$	$-\frac{29}{128}$		$+\frac{3}{8}$		H $+\frac{49}{128}$	
	[sin]		0	$-\frac{1}{16}$	$-\frac{21}{256}$		$+\frac{21}{64}$		H $+\frac{97}{256}$	
x^6	[cos + sin]		$+\frac{3}{32}$		$-\frac{33}{64}$		$+\frac{15}{64}$		$-\frac{35}{64}$	
	[cos − sin]		,,		$-\frac{11}{64}$		$+\frac{1}{64}$		$-\frac{1}{64}$	
	[cos]		$+\frac{3}{32}$		$-\frac{11}{32}$		$+\frac{1}{8}$		$-\frac{9}{32}$	
	[sin]		0		$-\frac{11}{64}$		$+\frac{7}{64}$		$-\frac{17}{64}$	
x^7	[cos + sin]				$-\frac{21}{128}$				$-\frac{35}{128}$	
	[cos − sin]				$-\frac{7}{128}$				$-\frac{1}{128}$	
	[cos]				$-\frac{7}{64}$				$-\frac{9}{64}$	
	[sin]				$-\frac{7}{128}$				$-\frac{17}{128}$	

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix} 4f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^4$				$[\ ]^5$				$[\ ]^6$			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7	e^2	e^4	e^6	
x^4	[cos + sin]			$+\frac{3}{8}$	-2			$+\frac{1}{4}$	$-\frac{125}{64}$		$+\frac{1}{4}$	$-\frac{45}{32}$	
	[cos − sin]			0	0			0	0		0	0	
	[cos]			H	H			H	H		H	H	
	[sin]			H	H			H	H		H	H	
x^5	[cos + sin]				$-\frac{5}{16}$			$-\frac{5}{16}$	$+\frac{475}{256}$			$-\frac{35}{64}$	
	[cos − sin]				0			0	0			0	
	[cos]				H			H	H			H	
	[sin]				H			H	H			H	
x^6	[cos + sin]				$+\frac{5}{16}$				$+\frac{5}{64}$			$+\frac{15}{64}$	
	[cos − sin]				0				0			0	
	[cos]				H				H			H	
	[sin]				H				H			H	
x^7	[cos + sin]								$-\frac{35}{128}$				
	[cos − sin]								0				
	[cos]								H				
	[sin]								H				

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $4f$.

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $4f$	$[\ ]^7$		$[\ ]^8$		$[\ ]^9$		$[\ ]^{10}$	$[\ ]^{11}$
		e^3	e^5 e^7	e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]		$+\frac{7}{8}$ $-\frac{351}{64}$	$+\frac{1}{16}$	$+\frac{13}{8}$	$+\frac{3}{8}$	$+\frac{95}{64}$	$+\frac{43}{32}$	$+\frac{719}{192}$
	[cos − sin]		0 0	0	0	0	0	0	0
	[cos]		H H	H	H	H	H	H	H
	[sin]		H H	H	H	H	H	H	H
x^5	[cos + sin]		$-\frac{5}{32}$ $+\frac{41}{256}$		$-\frac{21}{32}$	$-\frac{1}{32}$	$-\frac{397}{256}$	$-\frac{13}{64}$	$-\frac{199}{256}$
	[cos − sin]		0 0		0	0	0	0	0
	[cos]		H H		H	H	H	H	H
	[sin]		H H		H	H	H	H	H
x^6	[cos + sin]		$+\frac{39}{64}$		$+\frac{3}{32}$		$+\frac{29}{64}$	$+\frac{1}{64}$	$+\frac{7}{64}$
	[cos − sin]		0		0		0	0	0
	[cos]		H		H		H	H	H
	[sin]		H		H		H	H	H
x^7	[cos + sin]		$-\frac{21}{128}$				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]		0				0		0
	[cos]		H				H		H
	[sin]		H				H		H

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Table $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 5f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^0$		$[\ ]^1$		$[\ ]^2$			$[\ ]^3$		
		e^5	e^7	e^4	e^6	e^3	e^5	e^7	e^2	e^4	e^6
x^0	[cos + sin]	$-\frac{3}{16}$	$-\frac{5}{32}$	$+\frac{1045}{384}$	$-\frac{229}{192}$	$-\frac{95}{12}$	$+\frac{185}{12}$	$-\frac{1295}{192}$	$+\frac{75}{8}$	$-\frac{665}{16}$	$+\frac{58515}{1024}$
	[cos − sin]	,,	,,	0	$-\frac{37}{9216}$	0	0	$+\frac{5}{4032}$	0	0	0
	[cos]	$-\frac{3}{16}$	$-\frac{5}{32}$	H	$-\frac{11029}{18432}$	H	H	$-\frac{13595}{4032}$	H	H	H
	[sin]	0	0	H	$-\frac{10955}{18432}$	H	H	$-\frac{425}{126}$	H	H	H
x^1	[cos + sin]	$-\frac{15}{32}$	$-\frac{11}{64}$	$+\frac{229}{96}$	$-\frac{7747}{3840}$	$-\frac{29}{8}$	$+\frac{205}{24}$	$-\frac{11831}{1920}$	$+\frac{9}{4}$	$-\frac{169}{16}$	$+\frac{9609}{512}$
	[cos − sin]	,,	,,	0	$-\frac{151}{7680}$	0	0	$-\frac{37}{5760}$	0	0	0
	[cos]	$-\frac{15}{32}$	$-\frac{11}{64}$	H	$-\frac{1043}{1024}$	H	H	$-\frac{3553}{1152}$	H	H	H
	[sin]	0	0	H	$-\frac{15343}{15360}$	H	H	$-\frac{277}{90}$	H	H	H
x^2	[cos + sin]	$-\frac{5}{8}$	$+\frac{1}{16}$	$+\frac{43}{32}$	$-\frac{357}{256}$	-1	$+\frac{37}{24}$	$-\frac{691}{480}$	$+\frac{1}{4}$	$+\frac{11}{16}$	$-\frac{1435}{512}$
	[cos − sin]	,,	,,	0	$+\frac{37}{1536}$	0	0	$+\frac{1}{480}$	0	0	0
	[cos]	$-\frac{5}{8}$	$+\frac{1}{16}$	H	$-\frac{2105}{3072}$	H	H	$-\frac{23}{32}$	H	H	H
	[sin]	0	0	H	$-\frac{2179}{3072}$	H	H	$-\frac{173}{240}$	H	H	H
x^3	[cos + sin]	$-\frac{15}{32}$	$+\frac{5}{32}$	$+\frac{7}{16}$	$+\frac{3}{32}$	$-\frac{1}{8}$	$-\frac{19}{16}$	$+\frac{261}{128}$		$+\frac{5}{4}$	$-\frac{531}{128}$
	[cos − sin]	,,	,,	0	$+\frac{47}{384}$	0	0	$+\frac{7}{384}$		0	0
	[cos]	$-\frac{15}{32}$	$+\frac{5}{32}$	H	$+\frac{83}{768}$	H	H	$+\frac{395}{384}$		H	H
	[sin]	0	0	H	$-\frac{11}{768}$	H	H	$+\frac{97}{96}$		H	H

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... *Table* $(x^0, x^1, x^2, x^3)\ \begin{matrix}\cos\\ \sin\end{matrix}\ 5f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}\ 5f$	$[\ ]^4$				$[\ ]^5$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^0	[cos + sin]	-5	$+\frac{95}{2}$	$-\frac{1675}{12}$	$+\frac{25085}{144}$	$+1$	-25	$+\frac{9775}{64}$	$-\frac{110225}{288}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{17}{4}$	$-\frac{365}{24}$	$+\frac{8413}{288}$		$+\frac{1}{2}$	$-\frac{25}{8}$	$-\frac{25}{128}$
	[cos − sin]	0	0	0	0		0	0	0
	[cos]	H	H	H	H		H	H	H
	[sin]	H	H	H	H		H	H	H
x^2	[cos + sin]		$-\frac{3}{2}$	$+\frac{26}{3}$	$-\frac{527}{32}$		$+\frac{1}{2}$	$-\frac{25}{4}$	$+\frac{9725}{384}$
	[cos − sin]		0	0	0		0	0	0
	[cos]		H	H	H		H	H	H
	[sin]		H	H	H		H	H	H
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{17}{8}$	$-\frac{725}{128}$			$+\frac{3}{8}$	$-\frac{25}{16}$
	[cos − sin]		0	0	0			0	0
	[cos]		H	H	H			H	H
	[sin]		H	H	H			H	H

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...Table $(x^0, x^1, x^2, x^3)\begin{matrix}\cos\\ \sin\end{matrix} 5f...$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^6$				$[\ ]^7$			$[\ ]^8$		
		e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
x^0	[cos + sin]	$+5$	$-\frac{315}{4}$	$+\frac{6375}{16}$	$-\frac{59585}{64}$	$+\frac{125}{8}$	$-\frac{9605}{48}$	$+\frac{2825155}{3072}$	$+\frac{235}{6}$	$-\frac{21515}{48}$	$+\frac{187915}{96}$
	[cos − sin]	0	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{69}{8}$	$-\frac{1335}{32}$	$+\frac{10003}{128}$	$-\frac{11}{4}$	$+\frac{1723}{48}$	$-\frac{242573}{1536}$	$-\frac{37}{4}$	$+\frac{10145}{96}$	$-\frac{425783}{960}$
	[cos − sin]	0	0	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H	H	H
x^2	[cos + sin]		$+1$	$-\frac{47}{4}$	$+\frac{1553}{32}$	$+\frac{1}{4}$	$-\frac{19}{16}$	$-\frac{4295}{512}$	$+\frac{3}{2}$	$-\frac{313}{24}$	$+\frac{6977}{240}$
	[cos − sin]		0	0	0	0	0	0	0	0	0
	[cos]		H	H	H	H	H	H	H	H	H
	[sin]		H	H	H	H	H	H	H	H	H
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{69}{16}$	$-\frac{1995}{128}$		$-\frac{5}{4}$	$+\frac{1639}{128}$	$-\frac{1}{8}$	$-\frac{53}{32}$	$+\frac{769}{32}$
	[cos − sin]		0	0	0		0	0	0	0	0
	[cos]		H	H	H		H	H	H	H	H
	[sin]		H	H	H		H	H	H	H	H

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... *Table* $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 5f$.

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^9$		$[\ ]^{10}$		$[\ ]^{11}$	$[\ ]^{12}$
		e^4	e^6	e^5	e^7	e^6	e^7
x^0	[cos + sin]	$+\frac{11035}{128}$	$-\frac{59127}{64}$	$+\frac{8359}{48}$	$-\frac{1033885}{576}$	$+\frac{3050417}{9216}$	$+\frac{67335}{112}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{787}{32}$	$+\frac{334011}{1280}$	$-\frac{5455}{96}$	$+\frac{665623}{1152}$	$-\frac{918191}{7680}$	$-\frac{37647}{160}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^2	[cos + sin]	$+\frac{173}{32}$	$-\frac{12697}{256}$	$+\frac{365}{24}$	$-\frac{13481}{96}$	$+\frac{18859}{512}$	$+\frac{12907}{160}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^3	[cos + sin]	$-\frac{13}{16}$	$+\frac{63}{32}$	$-\frac{25}{8}$	$+\frac{7115}{384}$	$-\frac{3563}{384}$	$-\frac{3011}{128}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table $(x^4, x^5, x^6, x^7)\ \begin{matrix}\cos\\ \sin\end{matrix}\ 5f\ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix}\ 5f$	$[\ ]^0$		$[\ ]^1$		$[\ ]^2$			$[\ ]^3$		
		e^5	e^7	e^4	e^6	e^3	e^5	e^7	e^2	e^4	e^6
x^4	[cos + sin]	$-\frac{3}{16}$	$-\frac{5}{32}$	$+\frac{1}{16}$	$+\frac{25}{32}$		$-\frac{13}{16}$	$+\frac{81}{64}$		$+\frac{1}{4}$	$-\frac{9}{128}$
	[cos − sin]	,,	,,	0	$+\frac{19}{128}$		0	$-\frac{1}{192}$		0	0
	[cos]	$-\frac{3}{16}$	$-\frac{5}{32}$	H	$+\frac{119}{256}$		H	$+\frac{121}{192}$		H	H
	[sin]	0	0	H	$+\frac{81}{256}$		H	$+\frac{61}{96}$		H	H
x^5	[cos + sin]	$-\frac{1}{32}$	$-\frac{25}{64}$		$+\frac{15}{32}$		$-\frac{5}{32}$	$-\frac{65}{128}$			$+\frac{55}{64}$
	[cos − sin]	,,	,,		$+\frac{5}{64}$		0	$-\frac{1}{128}$			0
	[cos]	$-\frac{1}{32}$	$-\frac{25}{64}$		$+\frac{35}{128}$		H	$-\frac{35}{128}$			H
	[sin]	0	0		$+\frac{25}{128}$		H	$-\frac{15}{64}$			H
x^6	[cos + sin]		$-\frac{1}{4}$		$+\frac{3}{32}$			$-\frac{21}{32}$			$+\frac{15}{64}$
	[cos − sin]		,,		$+\frac{1}{64}$			$-\frac{1}{32}$			0
	[cos]		$-\frac{1}{4}$		$+\frac{7}{128}$			$-\frac{11}{32}$			H
	[sin]		0		$+\frac{5}{128}$			$-\frac{5}{16}$			H
x^7	[cos + sin]		$-\frac{7}{128}$					$-\frac{21}{128}$			
	[cos − sin]		,,					$-\frac{1}{128}$			
	[cos]		$-\frac{7}{128}$					$-\frac{11}{128}$			
	[sin]		0					$-\frac{5}{64}$			

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... *Table* $(x^4, x^5, x^6, x^7)\ \begin{matrix}\cos\\ \sin\end{matrix}\ 5f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}\ 5f$	$[\ ]^4$		$[\ ]^5$		$[\ ]^6$		$[\ ]^7$	
		e	e^3 e^5 e^7	e^0	e^2 e^4 e^6	e	e^3 e^5 e^7	e^2	e^4 e^6
x^4	[cos + sin]		$-\frac{7}{8}$ $+\frac{113}{32}$		$+\frac{3}{8}$ $-\frac{25}{8}$		$+\frac{3}{8}$ $-\frac{249}{64}$		$+\frac{1}{4}$ $-\frac{239}{128}$
	[cos − sin]		0 0		0 0		0 0		0 0
	[cos]		H H		H H		H H		H H
	[sin]		H H		H H		H H		H H
x^5	[cos + sin]		$-\frac{5}{16}$ $+\frac{85}{64}$		$+\frac{5}{16}$		$-\frac{5}{16}$ $+\frac{345}{128}$		$-\frac{45}{64}$
	[cos − sin]		0 0		0		0 0		0
	[cos]		H H		H		H H		H
	[sin]		H H		H		H H		H
x^6	[cos + sin]		$-\frac{5}{8}$		$+\frac{5}{16}$		$+\frac{5}{32}$		$+\frac{15}{64}$
	[cos − sin]		0		0		0		0
	[cos]		H		H		H		H
	[sin]		H		H		H		H
x^7	[cos + sin]		$-\frac{35}{128}$				$-\frac{35}{128}$		
	[cos − sin]		0				0		
	[cos]		H				H		
	[sin]		H				H		

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... *Table* $(x^4, x^5, x^6, x^7) \begin{matrix}\cos\\ \sin\end{matrix} 5f$.

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^8$		$[\ ]^9$		$[\ ]^{10}$		$[\ ]^{11}$	$[\ ]^{12}$
		e^3	e^5 e^7	e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]		$+\frac{17}{16}$ $-\frac{287}{32}$	$+\frac{1}{16}$	$+\frac{75}{32}$	$+\frac{7}{16}$	$+\frac{505}{192}$	$+\frac{229}{128}$	$+\frac{179}{32}$
	[cos − sin]		0 0	0	0	0	0	0	0
	[cos]		H H	H	H	H	H	H	H
	[sin]		H H	H	H	H	H	H	H
x^5	[cos + sin]		$-\frac{5}{32}$ $+\frac{5}{64}$		$-\frac{25}{32}$	$-\frac{1}{32}$	$-\frac{275}{128}$	$-\frac{15}{64}$	$-\frac{65}{64}$
	[cos − sin]		0 0		0	0	0	0	0
	[cos]		H H		H	H	H	H	H
	[sin]		H H		H	H	H	H	H
x^6	[cos + sin]		$+\frac{3}{4}$		$+\frac{3}{32}$		$+\frac{17}{32}$	$+\frac{1}{64}$	$+\frac{1}{8}$
	[cos − sin]		0		0		0	0	0
	[cos]		H		H		H	H	H
	[sin]		H		H		H	H	H
x^7	[cos + sin]		$-\frac{21}{128}$				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]		0				0		0
	[cos]		H				H		H
	[sin]		H				H		H

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Table (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$	$[\ ]^0$	$[\ ]^1$		$[\ ]^2$		$[\ ]^3$		
		e^6	e^5	e^7	e^4	e^6	e^3	e^5	e^7
x^0	[cos + sin]	$+\frac{7}{64}$	$-\frac{773}{320}$	$+\frac{5167}{7680}$	$+\frac{157}{16}$	$-\frac{1339}{80}$	$-\frac{67}{4}$	$+\frac{4053}{64}$	$-\frac{192531}{2560}$
	[cos − sin]	,,	0	$+\frac{17}{53760}$	0	0	0	0	0
	[cos]	$+\frac{7}{64}$	H	$+\frac{6031}{17920}$	H	H	H	H	H
	[sin]	0	H	$+\frac{4519}{13440}$	H	H	H	H	H
x^1	[cos + sin]	$+\frac{21}{64}$	$-\frac{1961}{768}$	$+\frac{162773}{92160}$	$+\frac{277}{48}$	$-\frac{993}{80}$	$-\frac{93}{16}$	$+\frac{6289}{256}$	$-\frac{384789}{10240}$
	[cos − sin]	,,	0	$+\frac{1091}{92160}$	0	0	0	0	0
	[cos]	$+\frac{21}{64}$	H	$+\frac{20483}{23040}$	H	H	H	H	H
	[sin]	0	H	$+\frac{26947}{30720}$	H	H	H	H	H
x^2	[cos + sin]	$+\frac{35}{64}$	$-\frac{179}{96}$	$+\frac{14689}{7680}$	$+\frac{37}{16}$	$-\frac{235}{48}$	$-\frac{5}{4}$	$+\frac{107}{32}$	$-\frac{12123}{2560}$
	[cos − sin]	,,	0	$-\frac{17}{7680}$	0	0	0	0	0
	[cos]	$+\frac{35}{64}$	H	$+\frac{917}{960}$	H	H	H	H	H
	[sin]	0	H	$+\frac{2451}{2560}$	H	H	H	H	H
x^3	[cos + sin]	$+\frac{35}{64}$	$-\frac{57}{64}$	$+\frac{739}{1024}$	$+\frac{9}{16}$	$+\frac{1}{4}$	$-\frac{1}{8}$	$-\frac{117}{64}$	$+\frac{6249}{1024}$
	[cos − sin]	,,	0	$-\frac{75}{1024}$	0	0	0	0	0
	[cos]	$+\frac{35}{64}$	H	$+\frac{83}{256}$	H	H	H	H	H
	[sin]	0	H	$+\frac{407}{1024}$	H	H	H	H	H

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... *Table* $(x^0, x^1, x^2, x^3)^{\substack{\cos \\ \sin}} 6f$ ...

	$\substack{\cos \\ \sin} 6f$	$[\ ]^4$			$[\ ]^5$			
		e^2	e^4	e^6	e	e^3	e^5	e^7
x^0	[cos + sin]	$+\frac{57}{4}$	$-\frac{829}{8}$	$+\frac{8117}{32}$	-6	$+\frac{345}{4}$	$-\frac{12605}{32}$	$+\frac{1246315}{1536}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
x^1	[cos + sin]	$+\frac{11}{4}$	$-\frac{497}{24}$	$+\frac{1933}{32}$	$-\frac{1}{2}$	$+\frac{105}{16}$	$-\frac{13325}{384}$	$+\frac{1838665}{18432}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
x^2	[cos + sin]	$+\frac{1}{4}$	$+\frac{7}{8}$	$-\frac{685}{96}$		$-\frac{7}{4}$	$+\frac{745}{48}$	$-\frac{72955}{1536}$
	[cos − sin]	0	0	0		0	0	0
	[cos]	H	H	H		H	H	H
	[sin]	H	H	H		H	H	H
x^3	[cos + sin]		$+\frac{3}{2}$	$-\frac{517}{64}$		$-\frac{3}{8}$	$+\frac{105}{32}$	$-\frac{13265}{1024}$
	[cos − sin]		0	0		0	0	0
	[cos]		H	H		H	H	H
	[sin]		H	H		H	H	H

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... *Table* $(x^0, x^1, x^2, x^3)\ \begin{matrix}\cos\\ \sin\end{matrix}\ 6f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}\ 6f$	$[\ ]^6$				$[\ ]^7$			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7
x^0	[cos + sin]	$+1$	-36	$+\frac{5103}{16}$	$-\frac{19015}{16}$	$+6$	$-\frac{525}{4}$	$+\frac{29813}{32}$	$-\frac{4795063}{1536}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
x^1	[cos + sin]		$+\frac{1}{2}$	$-\frac{9}{2}$	$-\frac{9}{32}$	$-\frac{1}{2}$	$+\frac{189}{16}$	$-\frac{30821}{384}$	$+\frac{4080685}{18432}$
	[cos − sin]		0	0	0	0	0	0	0
	[cos]		H	H	H	H	H	H	H
	[sin]		H	H	H	H	H	H	H
x^2	[cos + sin]		$+\frac{1}{2}$	-9	$+\frac{1695}{32}$		$+\frac{5}{4}$	$-\frac{959}{48}$	$+\frac{175553}{1536}$
	[cos − sin]		0	0	0		0	0	0
	[cos]		H	H	H		H	H	H
	[sin]		H	H	H		H	H	H
x^3	[cos + sin]			$+\frac{3}{8}$	$-\frac{9}{4}$		$-\frac{3}{8}$	$+\frac{189}{32}$	$-\frac{30737}{1024}$
	[cos − sin]			0	0		0	0	0
	[cos]			H	H		H	H	H
	[sin]			H	H		H	H	H

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$	$[\ ]^8$			$[\ ]^9$		
		e^2	e^4	e^6	e^3	e^5	e^7
x^0	[cos + sin]	$+\frac{87}{4}$	$-\frac{3011}{8}$	$+\frac{151205}{64}$	$+\frac{247}{4}$	$-\frac{59781}{64}$	$+\frac{13947303}{2560}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{13}{4}$	$+\frac{1369}{24}$	$-\frac{21969}{64}$	$-\frac{201}{16}$	$+\frac{48449}{256}$	$-\frac{10874049}{10240}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^2	[cos + sin]	$+\frac{1}{4}$	$-\frac{11}{8}$	$-\frac{3317}{192}$	$+\frac{7}{4}$	$-\frac{629}{32}$	$+\frac{145449}{2560}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^3	[cos + sin]		$-\frac{3}{2}$	$+\frac{1313}{64}$	$-\frac{1}{8}$	$-\frac{153}{64}$	$+\frac{44889}{1024}$
	[cos − sin]		0	0	0	0	0
	[cos]		H	H	H	H	H
	[sin]		H	H	H	H	H

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... *Table* $(x^0, x^1, x^2, x^3)\ {}^{\cos}_{\sin}\ 6f$.

	$\overset{\cos}{\sin}\ 6f$	$[\ ]^{10}$		$[\ ]^{11}$		$[\ ]^{12}$	$[\ ]^{13}$
		e^4	e^6	e^5	e^7	e^6	e^7
x^0	[cos + sin]	$+\frac{605}{4}$	$-\frac{16829}{8}$	$+\frac{107333}{320}$	$-\frac{33928027}{7680}$	$+\frac{110793}{160}$	$+\frac{72815971}{53760}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{1805}{48}$	$+\frac{16547}{32}$	$-\frac{73961}{768}$	$+\frac{115203737}{92160}$	$-\frac{35499}{160}$	$-\frac{43634809}{92160}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^2	[cos + sin]	$+\frac{115}{16}$	$-\frac{8135}{96}$	$+\frac{2173}{96}$	$-\frac{2039459}{7680}$	$+\frac{1937}{32}$	$+\frac{1111819}{7680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^3	[cos + sin]	$-\frac{15}{16}$	$+\frac{5}{2}$	$-\frac{261}{64}$	$+\frac{30707}{1024}$	$-\frac{863}{64}$	$-\frac{38507}{1024}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table $(x^4, x^5, x^6, x^7)\ \begin{matrix}\cos\\ \sin\end{matrix} 6f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 6f$	$[\ ]^0$	$[\ ]^1$		$[\ ]^2$		$[\ ]^3$			$[\ ]^4$		
		e^6	e^5	e^7	e^4	e^6	e^3	e^5	e^7	e^2	e^4	e^6
x^4	[cos + sin]	$+\frac{21}{64}$	$-\frac{1}{4}$	$-\frac{25}{48}$	$+\frac{1}{16}$	$+\frac{21}{16}$		-1	$+\frac{87}{32}$		$+\frac{1}{4}$	$-\frac{15}{64}$
	[cos − sin]	,,	0	$-\frac{13}{96}$	0	0		0	0		0	0
	[cos]	$+\frac{21}{64}$	H	$-\frac{21}{64}$	H	H		H	H		H	H
	[sin]	0	H	$-\frac{37}{192}$	H	H		H	H		H	H
x^5	[cos + sin]	$+\frac{7}{64}$	$-\frac{1}{32}$	$-\frac{187}{256}$		$+\frac{19}{32}$		$-\frac{5}{32}$	$-\frac{189}{256}$			$+\frac{65}{64}$
	[cos − sin]	,,	0	$-\frac{29}{256}$		0		0	0			0
	[cos]	$+\frac{7}{64}$	H	$-\frac{27}{64}$		H		H	H			H
	[sin]	0	H	$-\frac{79}{256}$		H		H	H			H
x^6	[cos + sin]	$+\frac{1}{64}$		$-\frac{21}{64}$		$+\frac{3}{32}$			$-\frac{51}{64}$			$+\frac{15}{64}$
	[cos − sin]	,,		$-\frac{3}{64}$		0			0			0
	[cos]	$+\frac{1}{64}$		$-\frac{3}{16}$		H			H			H
	[sin]	0		$-\frac{9}{64}$		H			H			H
x^7	[cos + sin]			$-\frac{7}{128}$					$-\frac{21}{128}$			
	[cos − sin]			$-\frac{1}{128}$					0			
	[cos]			$-\frac{1}{32}$					H			
	[sin]			$-\frac{3}{128}$					H			

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$	$[\ ]^5$		$[\ ]^6$		$[\ ]^7$		$[\ ]^8$	
		e^3	e^5 e^7	e^4	e^6	e^3	e^5 e^7	e^4	e^6
x^4	[cos + sin]		-1 $+\frac{25}{4}$	$+\frac{3}{8}$	$-\frac{9}{2}$		$+\frac{1}{2}$ $-\frac{217}{32}$	$+\frac{1}{4}$	$-\frac{153}{64}$
	[cos − sin]		0 0	0	0		0 0	0	0
	[cos]		H H	H	H		H H	H	H
	[sin]		H H	H	H		H H	H	H
x^5	[cos + sin]		$-\frac{5}{16}$ $+\frac{525}{256}$		$+\frac{5}{16}$		$-\frac{5}{16}$ $+\frac{945}{256}$		$-\frac{55}{64}$
	[cos − sin]		0 0		0		0 0		0
	[cos]		H H		H		H H		H
	[sin]		H H		H		H H		H
x^6	[cos + sin]		$-\frac{45}{64}$		$+\frac{5}{16}$		$+\frac{15}{64}$		$+\frac{15}{64}$
	[cos − sin]		0		0		0		0
	[cos]		H		H		H		H
	[sin]		H		H		H		H
x^7	[cos + sin]		$-\frac{35}{128}$				$-\frac{35}{128}$		
	[cos − sin]		0				0		
	[cos]		H				H		
	[sin]		H				H		

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$.

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $6f$	$[\ ]^9$		$[\ ]^{10}$		$[\ ]^{11}$		$[\ ]^{12}$	$[\ ]^{13}$
		e^3	e^5	e^7	e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]		$+\frac{5}{4}$	$-\frac{219}{16}$	$+\frac{1}{16}$	$+\frac{51}{16}$	$+\frac{1}{2}$	$+\frac{403}{96}$	$+\frac{147}{64}$	$+\frac{191}{24}$
	[cos − sin]		0	0	0	0	0	0	0	0
	[cos]		H	H	H	H	H	H	H	H
	[sin]		H	H	H	H	H	H	H	H
x^5	[cos + sin]		$-\frac{5}{32}$	$-\frac{9}{256}$		$-\frac{29}{32}$	$-\frac{1}{32}$	$-\frac{727}{256}$	$-\frac{17}{64}$	$-\frac{329}{256}$
	[cos − sin]		0	0		0	0	0	0	0
	[cos]		H	H		H	H	H	H	H
	[sin]		H	H		H	H	H	H	H
x^6	[cos + sin]			$+\frac{57}{64}$		$+\frac{3}{32}$		$+\frac{39}{64}$	$+\frac{1}{64}$	$+\frac{9}{64}$
	[cos − sin]			0		0		0	0	0
	[cos]			H		H		H	H	H
	[sin]			H		H		H	H	H
x^7	[cos + sin]			$-\frac{21}{128}$				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]			0				0		0
	[cos]			H				H		H
	[sin]			H				H		H

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Table $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 7f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 7f$	$[\ ]^0$	$[\ ]^1$	$[\ ]^2$		$[\ ]^3$	
		e^7	e^6	e^5	e^7	e^4	e^6
x^0	[cos + sin]	$-\frac{1}{16}$	$+\frac{93289}{46080}$	$-\frac{329}{30}$	$+\frac{11809}{720}$	$+\frac{3227}{128}$	$-\frac{26943}{320}$
	[cos − sin]	,,	0	0	0	0	0
	[cos]	$-\frac{1}{16}$	H	H	H	H	H
	[sin]	0	H	H	H	H	H
x^1	[cos + sin]	$-\frac{7}{32}$	$+\frac{19081}{7680}$	$-\frac{187}{24}$	$+\frac{10927}{720}$	$+\frac{361}{32}$	$-\frac{55317}{1280}$
	[cos − sin]	,,	0	0	0	0	0
	[cos]	$-\frac{7}{32}$	H	H	H	H	H
	[sin]	0	H	H	H	H	H
x^2	[cos + sin]	$-\frac{7}{16}$	$+\frac{1131}{512}$	$-\frac{97}{24}$	$+\frac{4223}{480}$	$+\frac{113}{32}$	$-\frac{3177}{256}$
	[cos − sin]	,,	0	0	0	0	0
	[cos]	$-\frac{7}{16}$	H	H	H	H	H
	[sin]	0	H	H	H	H	H
x^3	[cos + sin]	$-\frac{35}{64}$	$+\frac{529}{384}$	$-\frac{23}{16}$	$+\frac{391}{192}$	$+\frac{11}{16}$	$+\frac{15}{32}$
	[cos − sin]	,,	0	0	0	0	0
	[cos]	$-\frac{35}{64}$	H	H	H	H	H
	[sin]	0	H	H	H	H	H

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... *Table* $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 7f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 7f$	$[\ ]^4$			$[\ ]^5$		
		e^3	e^5	e^7	e^2	e^4	e^6
x^0	[cos + sin]	$-\frac{91}{3}$	$+\frac{4445}{24}$	$-\frac{47299}{120}$	$+\frac{161}{8}$	$-\frac{10409}{48}$	$+\frac{2509759}{3072}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{17}{2}$	$+\frac{2689}{48}$	$-\frac{3395}{24}$	$+\frac{13}{4}$	$-\frac{1721}{48}$	$+\frac{236923}{1536}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^2	[cos + sin]	$-\frac{3}{2}$	$+\frac{149}{24}$	$-\frac{5897}{480}$	$+\frac{1}{4}$	$+\frac{17}{16}$	$-\frac{7671}{512}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
x^3	[cos + sin]	$-\frac{1}{8}$	$-\frac{83}{32}$	$+\frac{1807}{128}$		$+\frac{7}{4}$	$-\frac{1781}{128}$
	[cos − sin]	0	0	0		0	0
	[cos]	H	H	H		H	H
	[sin]	H	H	H		H	H

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... *Table* $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 7f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 7f$	$[\ ]^6$				$[\ ]^7$			
		e^1	e^3	e^5	e^7	e^0	e^2	e^4	e^6
x^0	[cos + sin]	-7	$+\frac{567}{4}$	$-\frac{14805}{16}$	$+\frac{89999}{32}$	$+1$	-49	$+\frac{37975}{64}$	$-\frac{883421}{288}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{75}{8}$	$-\frac{2199}{32}$	$+\frac{17549}{64}$		$+\frac{1}{2}$	$-\frac{49}{8}$	$-\frac{49}{128}$
	[cos − sin]	0	0	0	0		0	0	0
	[cos]	H	H	H	H		H	H	H
	[sin]	H	H	H	H		H	H	H
x^2	[cos + sin]		-2	$+\frac{101}{4}$	$-\frac{3611}{32}$		$+\frac{1}{2}$	$-\frac{49}{4}$	$+\frac{37877}{384}$
	[cos − sin]		0	0	0		0	0	0
	[cos]		H	H	H		H	H	H
	[sin]		H	H	H		H	H	H
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{75}{16}$	$-\frac{411}{16}$			$+\frac{3}{8}$	$-\frac{49}{16}$
	[cos − sin]		0	0	0			0	0
	[cos]		H	H	H			H	H
	[sin]		H	H	H			H	H

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 7f$	[ ]^8				[ ]^9		
		e	e^3	e^5	e^7	e^2	e^4	e^6
x^0	[cos + sin]	$+7$	-203	$+\frac{5768}{3}$	$-\frac{1255219}{144}$	$+\frac{231}{8}$	$-\frac{10381}{16}$	$+\frac{5454687}{1024}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
x^1	[cos + sin]	$-\frac{1}{2}$	$+\frac{31}{2}$	$-\frac{845}{6}$	$+\frac{154651}{288}$	$-\frac{15}{4}$	$+\frac{1363}{16}$	$-\frac{344031}{512}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
x^2	[cos + sin]		$+\frac{3}{2}$	$-\frac{94}{3}$	$+\frac{3791}{16}$	$+\frac{1}{4}$	$-\frac{25}{16}$	$-\frac{16155}{512}$
	[cos − sin]		0	0	0	0	0	0
	[cos]		H	H	H	H	H	H
	[sin]		H	H	H	H	H	H
x^3	[cos + sin]		$-\frac{3}{8}$	$+\frac{31}{4}$	$-\frac{3373}{64}$		$-\frac{7}{4}$	$+\frac{3945}{118}$
	[cos − sin]		0	0	0		0	0
	[cos]		H	H	H		H	H
	[sin]		H	H	H		H	H

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... *Table* (x^0, x^1, x^2, x^3) $\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$	$[\ ]^{10}$			$[\ ]^{11}$	
		e^3	e^5	e^7	e^4	e^6
x^0	[cos + sin]	$+\frac{1099}{12}$	$-\frac{84889}{48}$	$+\frac{1273433}{96}$	$+\frac{94885}{384}$	$-\frac{4151693}{960}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
x^1	[cos + sin]	$-\frac{131}{8}$	$+\frac{30193}{96}$	$-\frac{436457}{192}$	$-\frac{5231}{96}$	$+\frac{3618557}{3840}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
x^2	[cos + sin]	$+2$	$-\frac{677}{24}$	$+\frac{9889}{96}$	$+\frac{295}{32}$	$-\frac{34789}{256}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
x^3	[cos + sin]	$-\frac{1}{8}$	$-\frac{13}{4}$	$+\frac{2361}{32}$	$-\frac{17}{16}$	$+\frac{99}{32}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H

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Table $(x^0, x^1, x^2, x^3) \begin{matrix}\cos\\ \sin\end{matrix} 7f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 7f$	$[\ ]^{12}$		$[\ ]^{13}$	$[\ ]^{14}$
		e^5	e^7	e^6	e^7
x^0	[cos + sin]	$+\frac{23877}{40}$	$-\frac{390873}{40}$	$+\frac{61307827}{46080}$	$+\frac{1004057}{360}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
x^1	[cos + sin]	$-\frac{2451}{16}$	$+\frac{49413}{20}$	$-\frac{2945503}{7680}$	$-\frac{254051}{288}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
x^2	[cos + sin]	$+\frac{257}{8}$	$-\frac{74701}{160}$	$+\frac{144373}{1536}$	$+\frac{116977}{480}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
x^3	[cos + sin]	$-\frac{165}{32}$	$+\frac{5905}{128}$	$-\frac{7213}{384}$	$-\frac{10969}{192}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H

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Table (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix} 7f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 7f$	$[\ ]^0$	$[\ ]^1$	$[\ ]^2$		$[\ ]^3$		$[\ ]^4$			$[\ ]^5$	
		e^7	e^6	e^5	e^7	e^4	e^6	e^3	e^5	e^7	e^4	e^6
x^4	[cos + sin]	$-\frac{7}{16}$	$+\frac{73}{128}$	$-\frac{5}{16}$	$-\frac{221}{192}$	$+\frac{1}{16}$	$+\frac{63}{32}$		$-\frac{19}{16}$	$+5$	$+\frac{1}{4}$	$-\frac{59}{128}$
	[cos − sin]	,,	0	0	0	0	0		0	0	0	0
	[cos]	$-\frac{7}{16}$	H	H	H	H	H		H	H	H	H
	[sin]	0	H	H	H	H	H		H	H	H	H
x^5	[cos + sin]	$-\frac{7}{32}$	$+\frac{9}{64}$	$-\frac{1}{32}$	$-\frac{149}{128}$		$+\frac{23}{32}$		$-\frac{5}{32}$	-1		$+\frac{75}{64}$
	[cos − sin]	,,	0	0	0		0		0	0		0
	[cos]	$-\frac{7}{32}$	H	H	H		H		H	H		H
	[sin]	0	H	H	H		H		H	H		H
x^6	[cos + sin]	$-\frac{1}{16}$	$+\frac{1}{64}$		$-\frac{13}{32}$		$+\frac{3}{32}$			$-\frac{15}{16}$		$+\frac{15}{64}$
	[cos − sin]	,,	0		0		0			0		0
	[cos]	$-\frac{1}{16}$	H		H		H			H		H
	[sin]	0	H		H		H			H		H
x^7	[cos + sin]	$-\frac{1}{128}$			$-\frac{7}{128}$					$-\frac{21}{128}$		
	[cos − sin]	,,			0					0		
	[cos]	$-\frac{1}{128}$			H					H		
	[sin]	0			H					H		

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$	$[\ ]^6$		$[\ ]^7$		$[\ ]^8$				$[\ ]^9$		
		e^5	e^7	e^4	e^6	e	e^3	e^5	e^7	e^2	e^4	e^6
x^4	[cos + sin]	$-\frac{9}{8}$	$+\frac{645}{64}$	$+\frac{3}{8}$	$-\frac{49}{8}$			$+\frac{5}{8}$	$-\frac{173}{16}$	$+\frac{1}{4}$	$-\frac{381}{128}$	
	[cos − sin]	0	0	0	0			0	0	0	0	
	[cos]	H	H	H	H			H	H	H	H	
	[sin]	H	H	H	H			H	H	H	H	
x^5	[cos + sin]	$-\frac{5}{16}$	$+\frac{375}{128}$		$+\frac{5}{16}$			$-\frac{5}{16}$	$+\frac{155}{32}$		$-\frac{65}{64}$	
	[cos − sin]	0	0		0			0	0		0	
	[cos]	H	H		H			H	H		H	
	[sin]	H	H		H			H	H		H	
x^6	[cos + sin]		$-\frac{25}{32}$		$+\frac{5}{16}$				$+\frac{5}{16}$		$+\frac{15}{64}$	
	[cos − sin]		0		0				0		0	
	[cos]		H		H				H		H	
	[sin]		H		H				H		H	
x^7	[cos + sin]		$-\frac{35}{128}$						$-\frac{35}{128}$			
	[cos − sin]		0						0			
	[cos]		H						H			
	[sin]		H						H			

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... *Table* (x^4, x^5, x^6, x^7) $\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$.

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $7f$	$[\ ]^{10}$		$[\ ]^{11}$		$[\ ]^{12}$		$[\ ]^{13}$	$[\ ]^{14}$
		e^5	e^7	e^4	e^6	e^5	e^7	e^6	e^7
x^4	[cos + sin]	$+\frac{23}{16}$	$-\frac{3807}{192}$	$+\frac{1}{16}$	$+\frac{133}{32}$	$+\frac{9}{16}$	$+\frac{25}{4}$	$+\frac{367}{128}$	$+\frac{2093}{192}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
x^5	[cos + sin]	$-\frac{5}{32}$	$-\frac{23}{128}$		$-\frac{33}{32}$	$-\frac{1}{32}$	$-\frac{29}{8}$	$-\frac{19}{64}$	$-\frac{203}{128}$
	[cos − sin]	0	0		0	0	0	0	0
	[cos]	H	H		H	H	H	H	H
	[sin]	H	H		H	H	H	H	H
x^6	[cos + sin]		$+\frac{33}{32}$		$+\frac{3}{32}$		$+\frac{11}{16}$	$+\frac{1}{64}$	$+\frac{5}{32}$
	[cos − sin]		0		0		0	0	0
	[cos]		H		H		H	H	H
	[sin]		H		H		H	H	H
x^7	[cos + sin]		$-\frac{21}{128}$				$-\frac{7}{128}$		$-\frac{1}{128}$
	[cos − sin]		0				0		0
	[cos]		H				H		H
	[sin]		H				H		H

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Table $\left(\left(\frac{r}{a}\right)^{-5} \dots \left(\frac{r}{a}\right)^{-1},\ \log\frac{r}{a},\ \left(\frac{r}{a}\right)^{-1} \dots \left(\frac{r}{a}\right)^{4}\right) \dots$

		$[\ ]^0$				$[\ ]^1$			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-5}$		$+1$	$+5$	$+\frac{105}{8}$	$+\frac{105}{4}$	$+\frac{5}{2}$	$+\frac{135}{16}$	$+\frac{7285}{384}$	$+\frac{643015}{18432}$
$\left(\frac{r}{a}\right)^{-4}$		$+1$	$+3$	$+\frac{45}{8}$	$+\frac{35}{4}$	$+2$	$+\frac{17}{4}$	$+\frac{685}{96}$	$+\frac{48293}{4608}$
$\left(\frac{r}{a}\right)^{-3}$		$+1$	$+\frac{3}{2}$	$+\frac{15}{8}$	$+\frac{35}{16}$	$+\frac{3}{2}$	$+\frac{27}{16}$	$+\frac{261}{128}$	$+\frac{14309}{6144}$
$\left(\frac{r}{a}\right)^{-2}$		$+1$	$+\frac{1}{2}$	$+\frac{3}{8}$	$+\frac{5}{16}$	$+1$	$+\frac{3}{8}$	$+\frac{65}{192}$	$+\frac{2675}{9216}$
$\left(\frac{r}{a}\right)^{-1}$		$+1$	0	0	0	$+\frac{1}{2}$	$-\frac{1}{16}$	$+\frac{1}{384}$	$-\frac{1}{18432}$
	[cos]								
$\log\frac{r}{a}$		0	$+\frac{1}{4}$	$+\frac{1}{32}$	$+\frac{1}{96}$	$-\frac{1}{2}$	$+\frac{3}{16}$	$+\frac{1}{128}$	$+\frac{127}{18432}$
$\left(\frac{r}{a}\right)^{1}$		$+1$	$+\frac{1}{2}$	0	0	$-\frac{1}{2}$	$+\frac{3}{16}$	$-\frac{5}{384}$	$+\frac{7}{18432}$
$\left(\frac{r}{a}\right)^{2}$		$+1$	$+\frac{3}{2}$	0	0	-1	$+\frac{1}{8}$	$-\frac{1}{192}$	$+\frac{1}{9216}$
$\left(\frac{r}{a}\right)^{3}$		$+1$	$+3$	$+\frac{3}{8}$	0	$-\frac{3}{2}$	$-\frac{9}{16}$	$+\frac{15}{128}$	$-\frac{35}{6144}$
$\left(\frac{r}{a}\right)^{4}$		$+1$	$+5$	$+\frac{15}{8}$	0	-2	$-\frac{9}{4}$	$+\frac{19}{96}$	$-\frac{29}{4608}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-5} \ldots \left(\frac{r}{a}\right)^{-1},\ \log\frac{r}{a},\ \left(\frac{r}{a}\right)^{1} \ldots \left(\frac{r}{a}\right)^{4}\right)$ ...

		$[\ ]^2$			$[\ ]^3$			$[\ ]^4$	
		e^2	e^4	e^6	e^3	e^5	e^7	e^4	e^6
$\left(\frac{r}{a}\right)^{-5}$		$+5$	$+\frac{155}{12}$	$+\frac{835}{32}$	$+\frac{145}{16}$	$+\frac{4715}{256}$	$+\frac{70893}{2048}$	$+\frac{745}{48}$	$+\frac{197}{8}$
$\left(\frac{r}{a}\right)^{-4}$		$+\frac{7}{2}$	$+\frac{67}{12}$	$+\frac{421}{48}$	$+\frac{23}{4}$	$+\frac{435}{64}$	$+\frac{27027}{2560}$	$+\frac{437}{48}$	$+\frac{899}{120}$
$\left(\frac{r}{a}\right)^{-3}$		$+\frac{9}{4}$	$+\frac{7}{4}$	$+\frac{141}{64}$	$+\frac{53}{16}$	$+\frac{393}{256}$	$+\frac{24753}{10240}$	$+\frac{77}{16}$	$+\frac{129}{160}$
$\left(\frac{r}{a}\right)^{-2}$		$+\frac{5}{4}$	$+\frac{1}{6}$	$+\frac{21}{64}$	$+\frac{13}{8}$	$-\frac{25}{128}$	$+\frac{393}{1024}$	$+\frac{103}{48}$	$-\frac{129}{160}$
$\left(\frac{r}{a}\right)^{-1}$		$+\frac{1}{2}$	$-\frac{1}{6}$	$+\frac{1}{48}$	$+\frac{9}{16}$	$-\frac{81}{256}$	$+\frac{729}{10240}$	$+\frac{2}{3}$	$-\frac{8}{15}$
	[cos]								
$\log\frac{r}{a}$		$-\frac{3}{8}$	$+\frac{11}{48}$	$-\frac{3}{128}$	$-\frac{17}{48}$	$+\frac{77}{256}$	$-\frac{743}{10240}$	$-\frac{71}{192}$	$+\frac{129}{320}$
$\left(\frac{r}{a}\right)^{1}$		$-\frac{1}{4}$	$+\frac{1}{6}$	$-\frac{1}{32}$	$-\frac{3}{16}$	$+\frac{45}{256}$	$-\frac{567}{10240}$	$-\frac{1}{6}$	$+\frac{1}{5}$
$\left(\frac{r}{a}\right)^{2}$		$-\frac{1}{4}$	$+\frac{1}{12}$	$-\frac{1}{96}$	$-\frac{1}{8}$	$+\frac{9}{128}$	$-\frac{81}{5120}$	$-\frac{1}{12}$	$+\frac{1}{15}$
$\left(\frac{r}{a}\right)^{3}$		0	$-\frac{1}{4}$	$+\frac{3}{32}$	$+\frac{1}{16}$	$-\frac{45}{256}$	$+\frac{189}{2048}$	$+\frac{1}{16}$	$-\frac{3}{20}$
$\left(\frac{r}{a}\right)^{4}$		$+\frac{1}{2}$	$-\frac{7}{12}$	$+\frac{1}{8}$	$+\frac{1}{4}$	$-\frac{19}{64}$	$+\frac{261}{2560}$	$+\frac{7}{48}$	$-\frac{1}{5}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-5} \ldots \left(\frac{r}{a}\right)^{-1},\ \log\frac{r}{a} \ldots \left(\frac{r}{a}\right)^{1} \ldots \left(\frac{r}{a}\right)^{4}\right)$.

		[ ]^5		[ ]^6	[ ]^7
		e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^{-5}$		$+\frac{19669}{768}$	$+\frac{565135}{18432}$	$+\frac{1317}{32}$	$+\frac{1195093}{18432}$
$\left(\frac{r}{a}\right)^{-4}$		$+\frac{2701}{192}$	$+\frac{31997}{4608}$	$+\frac{1709}{80}$	$+\frac{737707}{23040}$
$\left(\frac{r}{a}\right)^{-3}$		$+\frac{1773}{256}$	$-\frac{4987}{6144}$	$+\frac{3167}{320}$	$+\frac{432091}{30720}$
$\left(\frac{r}{a}\right)^{-2}$		$+\frac{1097}{384}$	$-\frac{16621}{9216}$	$+\frac{1223}{320}$	$+\frac{47273}{9216}$
$\left(\frac{r}{a}\right)^{-1}$		$+\frac{625}{768}$	$-\frac{15625}{18432}$	$+\frac{81}{80}$	$+\frac{117649}{92160}$
	[cos]				
$\log\frac{r}{a}$		$-\frac{523}{1280}$	$+\frac{10039}{18432}$	$-\frac{899}{1920}$	$-\frac{355081}{645120}$
$\left(\frac{r}{a}\right)^{1}$		$-\frac{125}{768}$	$+\frac{4375}{18432}$	$-\frac{27}{160}$	$-\frac{16807}{92160}$
$\left(\frac{r}{a}\right)^{2}$		$-\frac{25}{384}$	$+\frac{615}{9216}$	$-\frac{9}{160}$	$-\frac{2401}{46080}$
$\left(\frac{r}{a}\right)^{3}$		$+\frac{15}{256}$	$-\frac{875}{6144}$	$+\frac{9}{160}$	$+\frac{343}{6144}$
$\left(\frac{r}{a}\right)^{4}$		$+\frac{19}{192}$	$-\frac{725}{4608}$	$+\frac{3}{40}$	$+\frac{1421}{23040}$

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Table $\left(\left(\frac{r}{a}\right)^1 \dots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^0$				$[\ ]^1$			
		e	e^3	e^5	e^7	e	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$-\frac{3}{2}$	0	0	0	+ 1	$-\frac{1}{2}$	$-\frac{1}{64}$	$-\frac{29}{1152}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{1}{8}$	$+\frac{1}{24}$	$+\frac{25}{1024}$
	[cos]	$-\frac{3}{2}$	0	0	0	H	$-\frac{3}{16}$	$+\frac{5}{384}$	$-\frac{7}{18432}$
	[sin]	0	0	0	0	H	$-\frac{5}{16}$	$-\frac{11}{384}$	$-\frac{457}{18432}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	− 2	$-\frac{1}{2}$	0	0	+ 1	$+\frac{1}{2}$	$-\frac{25}{64}$	$-\frac{23}{1152}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{5}{8}$	0	$+\frac{143}{3072}$
	[cos]	− 2	$-\frac{1}{2}$	0	0	H	$+\frac{9}{16}$	$-\frac{25}{128}$	$+\frac{245}{18432}$
	[sin]	0	0	0	0	H	$-\frac{1}{16}$	$-\frac{25}{128}$	$-\frac{613}{18432}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{5}{2}$	$-\frac{15}{8}$	0	0	+ 1	+ 2	$-\frac{41}{64}$	$-\frac{37}{576}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{11}{8}$	$+\frac{7}{48}$	$+\frac{265}{3072}$
	[cos]	$-\frac{5}{2}$	$-\frac{15}{8}$	0	0	H	$+\frac{27}{16}$	$-\frac{95}{384}$	$+\frac{203}{18432}$
	[sin]	0	0	0	0	H	$+\frac{5}{16}$	$-\frac{151}{384}$	$-\frac{1387}{18432}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	− 3	$-\frac{9}{2}$	$-\frac{3}{8}$	0	+ 1	+ 4	$-\frac{1}{64}$	$-\frac{199}{576}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{19}{8}$	$+\frac{47}{48}$	$+\frac{115}{1024}$
	[cos]	− 3	$-\frac{9}{2}$	$-\frac{3}{8}$	0	H	$+\frac{51}{16}$	$+\frac{185}{384}$	$-\frac{2149}{18432}$
	[sin]	0	0	0	0	H	$+\frac{13}{16}$	$-\frac{191}{384}$	$-\frac{4219}{18432}$

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...Table $\left(\left(\frac{r}{a}\right)^1 \dots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^2$				$[\ ]^3$			$[\ ]^4$		
		e	e^3	e^5	e^7	e^2	e^4	e^6	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{1}{2}$	$-\frac{3}{8}$	$+\frac{5}{96}$	$-\frac{1}{72}$	$+\frac{3}{8}$	$-\frac{3}{8}$	$+\frac{111}{1024}$	$+\frac{1}{3}$	$-\frac{5}{12}$	$+\frac{43}{240}$
	[cos − sin]	0	$+\frac{1}{24}$	$+\frac{1}{96}$	$+\frac{1}{120}$	0	$+\frac{3}{128}$	$+\frac{3}{1280}$	0	$+\frac{1}{60}$	$-\frac{1}{720}$
	[cos]	H	$-\frac{1}{6}$	$+\frac{1}{32}$	$-\frac{1}{360}$	H	$-\frac{45}{256}$	$+\frac{567}{10240}$	H	$-\frac{1}{5}$	$+\frac{4}{45}$
	[sin]	H	$-\frac{5}{24}$	$+\frac{1}{48}$	$-\frac{1}{90}$	H	$-\frac{51}{256}$	$+\frac{543}{10240}$	H	$-\frac{13}{60}$	$+\frac{13}{144}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	0	$+\frac{1}{2}$	$-\frac{1}{3}$	$+\frac{5}{96}$	$-\frac{1}{8}$	$+\frac{1}{2}$	$-\frac{397}{1024}$	$-\frac{1}{6}$	$+\frac{13}{24}$	$-\frac{47}{96}$
	[cos − sin]	0	$+\frac{1}{6}$	$-\frac{1}{24}$	$+\frac{7}{480}$	0	$+\frac{11}{128}$	$-\frac{11}{256}$	0	$+\frac{7}{120}$	$-\frac{7}{160}$
	[cos]	0	$+\frac{1}{3}$	$-\frac{3}{16}$	$+\frac{1}{30}$	H	$+\frac{75}{256}$	$-\frac{441}{2048}$	H	$+\frac{3}{10}$	$-\frac{4}{15}$
	[sin]	0	$+\frac{1}{6}$	$-\frac{7}{48}$	$+\frac{3}{160}$	H	$+\frac{53}{256}$	$-\frac{353}{2048}$	H	$+\frac{29}{120}$	$-\frac{107}{480}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{1}{2}$	1	$-\frac{35}{96}$	$+\frac{23}{576}$	$-\frac{3}{8}$	$+\frac{11}{16}$	$-\frac{351}{1024}$	$-\frac{7}{24}$	$+\frac{55}{96}$	$-\frac{701}{1920}$
	[cos − sin]	0	$+\frac{1}{6}$	$-\frac{1}{96}$	$+\frac{7}{960}$	0	$+\frac{7}{128}$	$-\frac{9}{640}$	0	$+\frac{13}{480}$	$-\frac{73}{5760}$
	[cos]	H	$+\frac{7}{12}$	$-\frac{3}{16}$	$+\frac{17}{720}$	H	$+\frac{95}{256}$	$-\frac{1827}{10240}$	H	$+\frac{3}{10}$	$-\frac{17}{90}$
	[sin]	H	$+\frac{5}{12}$	$-\frac{17}{96}$	$+\frac{47}{2880}$	H	$+\frac{81}{256}$	$-\frac{1683}{10240}$	H	$+\frac{131}{480}$	$-\frac{203}{1152}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	−1	$+\frac{3}{4}$	$+\frac{13}{48}$	$-\frac{83}{576}$	$-\frac{3}{8}$	$+\frac{3}{16}$	$+\frac{249}{1024}$	$-\frac{1}{6}$	$+\frac{1}{48}$	$+\frac{119}{480}$
	[cos − sin]	0	$-\frac{1}{12}$	$+\frac{1}{6}$	$-\frac{43}{960}$	0	$-\frac{9}{128}$	$+\frac{57}{640}$	0	$-\frac{11}{240}$	$+\frac{91}{1440}$
	[cos]	H	$+\frac{1}{3}$	$+\frac{7}{32}$	$-\frac{17}{180}$	H	$+\frac{15}{256}$	$+\frac{1701}{10240}$	H	$-\frac{1}{80}$	$+\frac{7}{45}$
	[sin]	H	$+\frac{5}{12}$	$+\frac{5}{96}$	$-\frac{143}{2880}$	H	$+\frac{33}{256}$	$+\frac{789}{10240}$	H	$+\frac{1}{30}$	$+\frac{133}{1440}$

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} f.$

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^5$		$[\ ]^6$		$[\ ]^7$	$[\ ]^8$
		e^4	e^6	e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{125}{384}$	$-\frac{125}{256}$	$+\frac{27}{80}$	$-\frac{189}{320}$	$+\frac{16807}{46080}$	$+\frac{128}{315}$
	[cos − sin]	0	$+\frac{125}{9216}$	0	$+\frac{27}{2240}$	0	0
	[cos]	H	$-\frac{4375}{18432}$	H	$-\frac{81}{280}$	H	H
	[sin]	H	$-\frac{4625}{18432}$	H	$-\frac{135}{448}$	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$-\frac{25}{128}$	$+\frac{475}{768}$	$-\frac{9}{40}$	$+\frac{117}{160}$	$-\frac{2401}{9216}$	$-\frac{32}{105}$
	[cos − sin]	0	$+\frac{425}{9216}$	0	$+\frac{9}{224}$	0	0
	[cos]	H	$+\frac{6125}{18432}$	H	$+\frac{27}{70}$	H	H
	[sin]	H	$+\frac{5275}{18432}$	H	$+\frac{387}{1120}$	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{95}{384}$	$+\frac{205}{384}$	$-\frac{9}{40}$	$+\frac{171}{320}$	$-\frac{9947}{46080}$	$-\frac{68}{315}$
	[cos − sin]	0	$+\frac{155}{9216}$	0	$+\frac{27}{2240}$	0	0
	[cos]	H	$+\frac{5075}{18432}$	H	$+\frac{153}{560}$	H	H
	[sin]	H	$+\frac{4765}{18432}$	H	$+\frac{117}{448}$	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$-\frac{31}{384}$	$-\frac{7}{128}$	$-\frac{3}{80}$	$-\frac{33}{320}$	$-\frac{539}{46080}$	$+\frac{2}{315}$
	[cos − sin]	0	$-\frac{301}{9216}$	0	$-\frac{57}{2240}$	0	0
	[cos]	H	$-\frac{805}{18432}$	H	$-\frac{9}{140}$	H	H
	[sin]	H	$-\frac{203}{18432}$	H	$-\frac{87}{2240}$	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} f$ ...

$\begin{matrix}\cos\\ \sin\end{matrix} f$		$[\ ]^0$				$[\ ]^1$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$-\frac{1}{2}$	$-\frac{1}{8}$	$-\frac{1}{16}$	$-\frac{5}{128}$	+1	−1	$-\frac{1}{64}$	$-\frac{17}{288}$
	[cos − sin]	,,	,,	,,	,,	0	$-\frac{1}{8}$	$-\frac{1}{16}$	$-\frac{115}{3072}$
	[cos]	$-\frac{1}{2}$	$-\frac{1}{8}$	$-\frac{1}{16}$	$-\frac{5}{128}$	H	$-\frac{9}{16}$	$-\frac{5}{128}$	$-\frac{889}{18432}$
	[sin]	0	0	0	0	H	$-\frac{7}{16}$	$+\frac{3}{128}$	$-\frac{199}{18432}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	0	0	0	0	+1	$-\frac{1}{2}$	$-\frac{1}{64}$	$-\frac{29}{1152}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{1}{8}$	$+\frac{1}{24}$	$+\frac{25}{1024}$
	[cos]	0	0	0	0	H	$-\frac{3}{16}$	$+\frac{5}{384}$	$-\frac{7}{18432}$
	[sin]	0	0	0	0	H	$-\frac{5}{16}$	$-\frac{11}{384}$	$-\frac{457}{18432}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{1}{2}$	$+\frac{3}{4}$	$+\frac{15}{16}$	$+\frac{35}{32}$	+1	$+\frac{1}{2}$	$+\frac{55}{64}$	$+\frac{1177}{1152}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{5}{8}$	$+\frac{5}{6}$	$+\frac{3103}{3072}$
	[cos]	$+\frac{1}{2}$	$+\frac{3}{4}$	$+\frac{15}{16}$	$+\frac{35}{32}$	H	$+\frac{9}{16}$	$+\frac{325}{384}$	$+\frac{18725}{18432}$
	[sin]	0	0	0	0	H	$-\frac{1}{16}$	$+\frac{5}{384}$	$+\frac{107}{18432}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	+1	$+\frac{5}{2}$	$+\frac{35}{8}$	$+\frac{105}{16}$	+1	+2	$+\frac{239}{64}$	$+\frac{3323}{576}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{11}{8}$	$+\frac{49}{16}$	$+\frac{15665}{3072}$
	[cos]	+1	$+\frac{5}{2}$	$+\frac{35}{8}$	$+\frac{105}{16}$	H	$+\frac{27}{16}$	$+\frac{435}{128}$	$+\frac{100163}{18432}$
	[sin]	0	0	0	0	H	$+\frac{5}{16}$	$+\frac{43}{128}$	$+\frac{6173}{18432}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{3}{2}$	$+\frac{45}{8}$	$+\frac{105}{8}$	$+\frac{1575}{64}$	+1	+4	$+\frac{647}{64}$	$+\frac{11465}{576}$
	[cos − sin]	,,	,,	,,	,,	0	$+\frac{19}{8}$	$+\frac{371}{48}$	$+\frac{17179}{1024}$
	[cos]	$+\frac{3}{2}$	$+\frac{45}{8}$	$+\frac{105}{8}$	$+\frac{1575}{64}$	H	$+\frac{51}{16}$	$+\frac{3425}{384}$	$+\frac{338051}{18432}$
	[sin]	0	0	0	0	H	$+\frac{13}{16}$	$+\frac{457}{384}$	$+\frac{28829}{18432}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \dots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	[ ]^3				[ ]^4		
		e	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{3}{2}$	$-\frac{7}{4}$	$+\frac{31}{96}$	$-\frac{1}{12}$	$+\frac{17}{8}$	$-\frac{47}{16}$	$+\frac{1069}{1024}$
	[cos − sin]	0	$-\frac{1}{12}$	$-\frac{1}{24}$	$-\frac{7}{240}$	0	$-\frac{9}{128}$	$-\frac{9}{320}$
	[cos]	H	$-\frac{11}{12}$	$+\frac{9}{64}$	$-\frac{9}{160}$	H	$-\frac{385}{256}$	$+\frac{5201}{10240}$
	[sin]	H	$-\frac{5}{6}$	$+\frac{35}{192}$	$-\frac{13}{480}$	H	$-\frac{367}{256}$	$+\frac{5489}{10240}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	+ 2	$-\frac{3}{2}$	$+\frac{5}{24}$	$-\frac{1}{18}$	$+\frac{27}{8}$	$-\frac{27}{8}$	$+\frac{999}{1024}$
	[cos − sin]	0	$+\frac{1}{6}$	$+\frac{1}{24}$	$+\frac{1}{30}$	0	$+\frac{27}{128}$	$+\frac{27}{1280}$
	[cos]	H	$-\frac{2}{3}$	$+\frac{1}{8}$	$-\frac{1}{90}$	H	$-\frac{405}{256}$	$+\frac{5103}{10240}$
	[sin]	H	$-\frac{5}{6}$	$+\frac{1}{12}$	$-\frac{2}{45}$	H	$-\frac{459}{256}$	$+\frac{4887}{10240}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{5}{2}$	$-\frac{1}{8}$	$+\frac{103}{96}$	$+\frac{1255}{1152}$	$+\frac{39}{8}$	− 2	$+\frac{1803}{1024}$
	[cos − sin]	0	$+\frac{19}{24}$	$+\frac{43}{48}$	$+\frac{2063}{1920}$	0	$+\frac{131}{128}$	$+\frac{237}{256}$
	[cos]	H	$+\frac{1}{3}$	$+\frac{63}{64}$	$+\frac{779}{720}$	H	$-\frac{125}{256}$	$+\frac{2751}{2048}$
	[sin]	H	$-\frac{11}{24}$	$+\frac{17}{192}$	$+\frac{43}{5760}$	H	$-\frac{387}{256}$	$+\frac{855}{2048}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	+ 3	$+\frac{11}{4}$	$+\frac{245}{48}$	$+\frac{463}{64}$	$+\frac{53}{8}$	$+\frac{39}{16}$	$+\frac{7041}{1024}$
	[cos − sin]	0	$+\frac{23}{12}$	$+\frac{89}{24}$	$+\frac{5663}{960}$	0	$+\frac{343}{128}$	$+\frac{2819}{640}$
	[cos]	H	$+\frac{7}{3}$	$+\frac{141}{32}$	$+\frac{197}{30}$	H	$+\frac{655}{256}$	$+\frac{57757}{10240}$
	[sin]	H	$+\frac{5}{12}$	$+\frac{67}{96}$	$+\frac{641}{960}$	H	$-\frac{31}{256}$	$+\frac{12653}{10240}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{7}{2}$	$+\frac{15}{2}$	$+\frac{1529}{96}$	$+\frac{16207}{576}$	$+\frac{69}{8}$	$+\frac{183}{16}$	$+\frac{23865}{1024}$
	[cos − sin]	0	$+\frac{11}{3}$	$+\frac{997}{96}$	$+\frac{20279}{960}$	0	$+\frac{711}{128}$	$+\frac{8733}{640}$
	[cos]	H	$+\frac{67}{12}$	$+\frac{421}{32}$	$+\frac{8867}{360}$	H	$+\frac{2175}{256}$	$+\frac{189189}{10240}$
	[sin]	H	$+\frac{23}{12}$	$+\frac{133}{48}$	$+\frac{10099}{2880}$	H	$+\frac{753}{256}$	$+\frac{49461}{10240}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	[ ]^4			[ ]^5	
		e^3	e^5	e^7	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{71}{24}$	$-\frac{229}{48}$	$+\frac{1169}{480}$	$+\frac{523}{128}$	$-\frac{1451}{192}$
	[cos − sin]	0	$-\frac{1}{15}$	$-\frac{1}{60}$	0	$-\frac{625}{9216}$
	[cos]	H	$-\frac{387}{160}$	$+\frac{387}{320}$	H	$-\frac{70273}{18432}$
	[sin]	H	$-\frac{1129}{480}$	$+\frac{1177}{960}$	H	$-\frac{69023}{18432}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{16}{3}$	$-\frac{20}{3}$	$+\frac{43}{15}$	$+\frac{3125}{384}$	$-\frac{3125}{256}$
	[cos − sin]	0	$+\frac{4}{15}$	$-\frac{1}{45}$	0	$+\frac{3125}{9216}$
	[cos]	H	$-\frac{16}{5}$	$+\frac{64}{45}$	H	$-\frac{109375}{18432}$
	[sin]	H	$-\frac{52}{15}$	$+\frac{13}{9}$	H	$-\frac{115625}{18432}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{103}{12}$	$-\frac{593}{96}$	$+\frac{721}{192}$	$+\frac{5485}{384}$	$-\frac{11053}{768}$
	[cos − sin]	0	$+\frac{643}{480}$	$+\frac{2569}{2880}$	0	$+\frac{16289}{9216}$
	[cos]	H	$-\frac{387}{160}$	$+\frac{1673}{720}$	H	$-\frac{116347}{18432}$
	[sin]	H	$-\frac{451}{120}$	$+\frac{4123}{2880}$	H	$-\frac{148925}{18432}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{77}{6}$	$-\frac{25}{48}$	$+\frac{4751}{480}$	$+\frac{2955}{128}$	$-\frac{3463}{384}$
	[cos − sin]	0	$+\frac{899}{240}$	$+\frac{2441}{480}$	0	$+\frac{48203}{9216}$
	[cos]	H	$+\frac{129}{80}$	$+\frac{899}{120}$	H	$-\frac{34909}{18432}$
	[sin]	H	$-\frac{32}{15}$	$+\frac{77}{32}$	H	$-\frac{131315}{18432}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{437}{24}$	$+\frac{1361}{96}$	$+\frac{63341}{1920}$	$+\frac{13505}{384}$	$+\frac{1541}{128}$
	[cos − sin]	0	$+\frac{3983}{480}$	$+\frac{100849}{5760}$	0	$+\frac{113027}{9216}$
	[cos]	H	$+\frac{899}{80}$	$+\frac{36359}{1440}$	H	$+\frac{223979}{18432}$
	[sin]	H	$+\frac{1411}{480}$	$+\frac{44587}{5760}$	H	$-\frac{2075}{18432}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} f.$

	$\begin{matrix}\cos\\ \sin\end{matrix} f$	$[\ ]^6$		$[\ ]^7$	$[\ ]^8$
		e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{899}{160}$	$-\frac{1879}{160}$	$+\frac{355081}{46080}$	$+\frac{47259}{4480}$
	[cos − sin]	0	$-\frac{81}{1120}$	0	0
	[cos]	H	$-\frac{6617}{1120}$	H	H
	[sin]	H	$-\frac{817}{140}$	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{243}{20}$	$-\frac{1701}{80}$	$+\frac{823543}{46080}$	$+\frac{8192}{315}$
	[cos − sin]	0	$+\frac{243}{560}$	0	0
	[cos]	H	$-\frac{729}{70}$	H	H
	[sin]	H	$-\frac{1215}{112}$	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{3669}{160}$	$-\frac{18847}{640}$	$+\frac{330911}{9216}$	$+\frac{556403}{10080}$
	[cos − sin]	0	$+\frac{2101}{896}$	0	0
	[cos]	H	$-\frac{7589}{560}$	H	H
	[sin]	H	$-\frac{71217}{4480}$	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{3167}{80}$	$-\frac{8999}{320}$	$+\frac{3024637}{46080}$	$+\frac{178331}{1680}$
	[cos − sin]	0	$+\frac{16337}{2240}$	0	0
	[cos]	H	$-\frac{729}{70}$	H	H
	[sin]	H	$-\frac{7933}{448}$	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{5127}{80}$	$-\frac{753}{320}$	$+\frac{5163949}{46080}$	$+\frac{3830591}{20160}$
	[cos − sin]	0	$+\frac{40263}{2240}$	0	0
	[cos]	H	$+\frac{2187}{280}$	H	H
	[sin]	H	$-\frac{22767}{2240}$	H	H

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Table $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^0$			$[\ ]^1$			
		e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{3}{2}$	0	0	$-\frac{5}{2}$	$+\frac{33}{16}$	$-\frac{73}{384}$	$+\frac{881}{18432}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{48}$	$-\frac{41}{768}$	$-\frac{1159}{30720}$
	[cos]	$+\frac{3}{2}$	0	0	H	$+\frac{25}{24}$	$-\frac{187}{1536}$	$+\frac{29}{5760}$
	[sin]	0	0	0	H	$+\frac{49}{48}$	$-\frac{35}{512}$	$+\frac{3941}{92160}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{5}{2}$	0	0	−3	$+\frac{13}{8}$	$+\frac{5}{192}$	$+\frac{227}{3072}$
	[cos − sin]	,,	,,	,,	0	$-\frac{7}{24}$	$-\frac{47}{384}$	$-\frac{1091}{15360}$
	[cos]	$+\frac{5}{2}$	0	0	H	$+\frac{2}{3}$	$-\frac{37}{768}$	$+\frac{11}{7680}$
	[sin]	0	0	0	H	$+\frac{23}{24}$	$+\frac{19}{256}$	$+\frac{371}{5120}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{15}{4}$	$+\frac{5}{8}$	0	$-\frac{7}{2}$	$+\frac{1}{16}$	$+\frac{289}{384}$	$+\frac{1645}{18432}$
	[cos − sin]	,,	,,	,,	,,	$-\frac{47}{48}$	$-\frac{151}{768}$	$-\frac{4043}{30720}$
	[cos]	$+\frac{15}{4}$	$+\frac{5}{8}$	0	H	$-\frac{11}{24}$	$+\frac{427}{1536}$	$-\frac{61}{2880}$
	[sin]	0	0	0	H	$+\frac{25}{48}$	$+\frac{243}{512}$	$+\frac{10177}{92160}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{21}{4}$	$+\frac{21}{8}$	0	−4	−3	$+\frac{79}{48}$	$+\frac{233}{1152}$
	[cos − sin]	,,	,,	,,	,,	$-\frac{13}{6}$	$-\frac{13}{24}$	$-\frac{989}{3840}$
	[cos]	$+\frac{21}{4}$	$+\frac{21}{8}$	0	H	$-\frac{31}{12}$	$+\frac{53}{96}$	$-\frac{637}{23040}$
	[sin]	0	0	0	H	$-\frac{5}{12}$	$+\frac{35}{32}$	$+\frac{5297}{23040}$

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	[ ]^2				[ ]^3			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	+ 1	$-\frac{7}{2}$	$+\frac{47}{16}$	$-\frac{215}{288}$	$+\frac{3}{2}$	$-\frac{75}{16}$	$+\frac{573}{128}$	$-\frac{3507}{2048}$
	[cos − sin]	0	0	$+\frac{1}{48}$	$-\frac{3}{160}$	0	0	$+\frac{21}{1280}$	$-\frac{123}{10240}$
	[cos]	H	H	$+\frac{71}{48}$	$-\frac{551}{1440}$	H	H	$+\frac{5751}{2560}$	$-\frac{8829}{10240}$
	[sin]	H	H	$+\frac{35}{24}$	$-\frac{131}{360}$	H	H	$+\frac{5709}{2560}$	$-\frac{4353}{5120}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	+ 1	$-\frac{5}{2}$	$+\frac{23}{16}$	$-\frac{65}{288}$	+ 1	$-\frac{19}{8}$	$+\frac{107}{64}$	$-\frac{479}{1024}$
	[cos − sin]	0	0	$-\frac{1}{16}$	$-\frac{11}{480}$	0	0	$-\frac{17}{640}$	$-\frac{7}{1024}$
	[cos]	H	H	$+\frac{11}{16}$	$-\frac{179}{1440}$	H	H	$+\frac{1053}{1280}$	$-\frac{243}{1024}$
	[sin]	H	H	$+\frac{3}{4}$	$-\frac{73}{720}$	H	H	$+\frac{1087}{1280}$	$-\frac{59}{256}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	+ 1	− 1	$-\frac{11}{16}$	$+\frac{43}{72}$	$+\frac{1}{2}$	$-\frac{3}{16}$	$-\frac{117}{128}$	$+\frac{1553}{2048}$
	[cos − sin]	0	0	$-\frac{7}{48}$	$+\frac{1}{240}$	0	0	$-\frac{69}{1280}$	$+\frac{137}{10240}$
	[cos]	H	H	$-\frac{5}{12}$	$+\frac{433}{1440}$	H	H	$-\frac{1239}{2560}$	$+\frac{3951}{10240}$
	[sin]	H	H	$-\frac{13}{48}$	$+\frac{427}{1440}$	H	H	$-\frac{1101}{2560}$	$+\frac{1907}{5120}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	+ 1	+ 1	$-\frac{43}{16}$	$+\frac{35}{36}$		$+\frac{3}{2}$	$-\frac{9}{4}$	$+\frac{267}{256}$
	[cos − sin]	0	0	$-\frac{5}{48}$	0		0	$-\frac{3}{160}$	$+\frac{3}{640}$
	[cos]	H	H	$-\frac{67}{48}$	$+\frac{35}{72}$		H	$-\frac{363}{320}$	$+\frac{1341}{2560}$
	[sin]	H	H	$-\frac{31}{24}$	$+\frac{35}{72}$		H	$-\frac{357}{320}$	$+\frac{1329}{2560}$

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^4$			$[\ ]^5$		
		e^2	e^4	e^6	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	+ 2	$-\frac{19}{3}$	$+\frac{55}{8}$	$+\frac{125}{48}$	$-\frac{6625}{768}$	$+\frac{64625}{6144}$
	[cos − sin]	0	0	$+\frac{1}{72}$	0	0	$+\frac{1625}{129024}$
	[cos]	H	H	$+\frac{31}{9}$	H	H	$+\frac{679375}{129024}$
	[sin]	H	H	$+\frac{247}{72}$	H	H	$+\frac{338875}{64512}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	+ 1	$-\frac{5}{2}$	$+\frac{101}{48}$	$+\frac{25}{24}$	$-\frac{1075}{384}$	$+\frac{8425}{3072}$
	[cos − sin]	0	0	$-\frac{11}{720}$	0	0	$-\frac{75}{7168}$
	[cos]	H	H	$+\frac{47}{45}$	H	H	$+\frac{29375}{21504}$
	[sin]	H	H	$+\frac{763}{720}$	H	H	$+\frac{925}{672}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{1}{4}$	$+\frac{5}{24}$	$-\frac{227}{192}$	$+\frac{5}{48}$	$+\frac{385}{768}$	$-\frac{9515}{6144}$
	[cos − sin]	0	0	$-\frac{83}{2880}$	0	0	$-\frac{2435}{129024}$
	[cos]	H	H	$-\frac{109}{180}$	H	H	$-\frac{101125}{129024}$
	[sin]	H	H	$-\frac{1661}{2880}$	H	H	$-\frac{49345}{64512}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$-\frac{1}{4}$	$+\frac{37}{24}$	$-\frac{139}{64}$	$-\frac{1}{3}$	$+\frac{151}{96}$	$-\frac{877}{384}$
	[cos − sin]	0	0	$-\frac{17}{2880}$	0	0	$-\frac{41}{16128}$
	[cos]	H	H	$-\frac{49}{45}$	H	H	$-\frac{36875}{32256}$
	[sin]	H	H	$-\frac{3119}{2880}$	H	H	$-\frac{36793}{32256}$

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f.$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	[ ]^6		[ ]^7		[ ]^8	[ ]^9
		e^4	e^6	e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{27}{8}$	$-\frac{189}{16}$	$+\frac{16807}{3840}$	$-\frac{1495823}{92160}$	$+\frac{256}{45}$	$+\frac{531441}{71680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{9}{8}$	$-\frac{261}{80}$	$+\frac{2401}{1920}$	$-\frac{12005}{3072}$	$+\frac{64}{45}$	$+\frac{59049}{35840}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	0	$+\frac{63}{80}$	$-\frac{343}{3840}$	$+\frac{102557}{92160}$	$-\frac{8}{45}$	$-\frac{19683}{71680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	0	H	H	H	H	H
	[sin]	0	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$-\frac{3}{8}$	$+\frac{33}{20}$	$-\frac{49}{120}$	$+\frac{20531}{11520}$	$-\frac{4}{9}$	$-\frac{2187}{4480}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

		$[\ ]^0$			$[\ ]^1$			
$\begin{matrix}\cos\\ \sin\end{matrix} 2f$		e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{1}{4}$	$+\frac{1}{8}$	$+\frac{5}{64}$	$-\frac{3}{2}$	$+\frac{17}{16}$	$+\frac{37}{384}$	$+\frac{197}{2048}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{48}$	$+\frac{29}{768}$	$+\frac{1013}{30720}$
	[cos]	$+\frac{1}{4}$	$+\frac{1}{8}$	$+\frac{5}{64}$	H	$+\frac{13}{24}$	$+\frac{103}{1536}$	$+\frac{31}{480}$
	[sin]	0	0	0	H	$+\frac{25}{48}$	$+\frac{15}{512}$	$+\frac{971}{30720}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	0	0	0	−1	$+\frac{3}{8}$	$+\frac{7}{192}$	$+\frac{295}{9216}$
	[cos − sin]	,,	,,	,,	0	$-\frac{1}{24}$	$-\frac{13}{384}$	$-\frac{389}{15360}$
	[cos]	0	0	0	H	$+\frac{1}{6}$	$+\frac{1}{768}$	$+\frac{77}{23040}$
	[sin]	0	0	0	H	$+\frac{5}{24}$	$+\frac{9}{256}$	$+\frac{1321}{46080}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	0	0	0	$-\frac{1}{2}$	$+\frac{1}{16}$	$-\frac{5}{384}$	$-\frac{143}{18432}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{48}$	$+\frac{11}{768}$	$+\frac{313}{30720}$
	[cos]	0	0	0	H	$+\frac{1}{24}$	$+\frac{1}{1536}$	$+\frac{7}{5760}$
	[sin]	0	0	0	H	$+\frac{1}{48}$	$-\frac{7}{512}$	$-\frac{827}{92160}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{1}{4}$	$+\frac{5}{8}$	$+\frac{35}{32}$	0	$+\frac{1}{2}$	$+\frac{11}{12}$	$+\frac{1099}{768}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{3}$	$+\frac{73}{96}$	$+\frac{2441}{1920}$
	[cos]	$+\frac{1}{4}$	$+\frac{5}{8}$	$+\frac{35}{32}$	0	$+\frac{5}{12}$	$+\frac{161}{192}$	$+\frac{3459}{2560}$
	[sin]	0	0	0	0	$+\frac{1}{12}$	$+\frac{5}{64}$	$+\frac{613}{7680}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{3}{4}$	$+\frac{21}{8}$	$+\frac{189}{32}$	$+\frac{1}{2}$	$+\frac{33}{16}$	$+\frac{1865}{384}$	$+\frac{169229}{18432}$
	[cos − sin]	,,	,,	,,	0	$+\frac{49}{48}$	$+\frac{2545}{768}$	$+\frac{219221}{30720}$
	[cos]	$+\frac{3}{4}$	$+\frac{21}{8}$	$+\frac{189}{32}$	H	$+\frac{37}{24}$	$+\frac{6275}{1536}$	$+\frac{23497}{2880}$
	[sin]	0	0	0	H	$+\frac{25}{48}$	$+\frac{395}{512}$	$+\frac{94241}{92160}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	$[\ ]^2$				$[\ ]^3$			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	+ 1	− 4	+ $\frac{47}{16}$	− $\frac{55}{144}$	+ $\frac{5}{2}$	− $\frac{131}{16}$	+ $\frac{887}{128}$	− $\frac{3999}{2048}$
	[cos − sin]	0	0	0	+ $\frac{1}{48}$	0	0	− $\frac{9}{1280}$	+ $\frac{153}{10240}$
	[cos]	H	H	H	− $\frac{13}{72}$	H	H	+ $\frac{8861}{2560}$	− $\frac{9921}{10240}$
	[sin]	H	H	H	− $\frac{29}{144}$	H	H	+ $\frac{8879}{2560}$	− $\frac{5037}{5120}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	+ 1	− $\frac{7}{2}$	+ $\frac{29}{16}$	− $\frac{53}{288}$	+ 3	− $\frac{69}{8}$	+ $\frac{369}{64}$	− $\frac{1401}{1024}$
	[cos − sin]	0	0	− $\frac{1}{24}$	− $\frac{3}{80}$	0	0	− $\frac{27}{640}$	− $\frac{189}{5120}$
	[cos]	H	H	+ $\frac{85}{96}$	− $\frac{319}{2880}$	H	H	+ $\frac{3663}{1280}$	− $\frac{3597}{5120}$
	[sin]	H	H	+ $\frac{89}{96}$	− $\frac{211}{2880}$	H	H	+ $\frac{3717}{1280}$	− $\frac{213}{320}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	+ 1	− $\frac{5}{2}$	+ $\frac{13}{16}$	− $\frac{35}{288}$	+ $\frac{7}{2}$	− $\frac{123}{16}$	+ $\frac{489}{128}$	− $\frac{1763}{2048}$
	[cos − sin]	0	0	+ $\frac{1}{24}$	+ $\frac{7}{240}$	0	0	+ $\frac{81}{1280}$	+ $\frac{81}{2048}$
	[cos]	H	H	+ $\frac{41}{96}$	− $\frac{133}{2880}$	H	H	+ $\frac{4971}{2560}$	− $\frac{841}{2048}$
	[sin]	H	H	+ $\frac{37}{96}$	− $\frac{217}{2880}$	H	H	+ $\frac{4809}{2560}$	− $\frac{461}{1024}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	+ 1	− 1	+ $\frac{17}{16}$	+ $\frac{85}{72}$	+ 4	− 5	+ $\frac{51}{16}$	+ $\frac{143}{128}$
	[cos − sin]	0	0	+ $\frac{7}{16}$	+ $\frac{109}{120}$	0	0	+ $\frac{23}{40}$	+ $\frac{1369}{1280}$
	[cos]	H	H	+ $\frac{3}{4}$	+ $\frac{47}{45}$	H	H	+ $\frac{301}{160}$	+ $\frac{2799}{2560}$
	[sin]	H	H	+ $\frac{5}{16}$	+ $\frac{49}{360}$	H	H	+ $\frac{209}{160}$	+ $\frac{61}{2560}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	+ 1	+ 1	+ $\frac{65}{16}$	+ $\frac{139}{18}$	+ $\frac{9}{2}$	− $\frac{3}{16}$	+ $\frac{963}{128}$	+ $\frac{22737}{2048}$
	[cos − sin]	0	0	+ $\frac{67}{48}$	+ $\frac{333}{80}$	0	0	+ $\frac{2451}{1280}$	+ $\frac{53193}{10240}$
	[cos]	H	H	+ $\frac{131}{48}$	+ $\frac{8557}{1440}$	H	H	+ $\frac{12081}{2560}$	+ $\frac{83439}{10240}$
	[sin]	H	H	+ $\frac{4}{3}$	+ $\frac{2563}{1440}$	H	H	+ $\frac{7179}{2560}$	+ $\frac{15123}{5120}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	[ ]^4 e^2	[ ]^4 e^4	[ ]^4 e^6	[ ]^5 e^3	[ ]^5 e^5	[ ]^5 e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{19}{4}$	$-\frac{121}{8}$	$+\frac{707}{48}$	$+\frac{389}{48}$	$-\frac{20267}{768}$	$+\frac{179141}{6144}$
	[cos − sin]	0	0	$-\frac{1}{90}$	0	0	$-\frac{625}{43008}$
	[cos]	H	H	$+\frac{10597}{1440}$	H	H	$+\frac{626681}{43008}$
	[sin]	H	H	$+\frac{10613}{1440}$	H	H	$+\frac{104551}{7168}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{13}{2}$	$-\frac{55}{3}$	$+\frac{239}{16}$	$+\frac{295}{24}$	$-\frac{13745}{384}$	$+\frac{105175}{3072}$
	[cos − sin]	0	0	$-\frac{2}{45}$	0	0	$-\frac{3125}{64512}$
	[cos]	H	H	$+\frac{10723}{1440}$	H	H	$+\frac{1102775}{64512}$
	[sin]	H	H	$+\frac{10787}{1440}$	H	H	$+\frac{276475}{16128}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{17}{2}$	$-\frac{115}{6}$	$+\frac{601}{48}$	$+\frac{845}{48}$	$-\frac{32525}{768}$	$+\frac{208225}{6144}$
	[cos − sin]	0	0	$+\frac{4}{45}$	0	0	$+\frac{15625}{129024}$
	[cos]	H	H	$+\frac{9079}{1440}$	H	H	$+\frac{2194175}{129024}$
	[sin]	H	H	$+\frac{8951}{1440}$	H	H	$+\frac{1089275}{64512}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{43}{4}$	$-\frac{129}{8}$	$+\frac{1985}{192}$	$+\frac{145}{6}$	$-\frac{1015}{24}$	$+\frac{23581}{768}$
	[cos − sin]	0	0	$+\frac{437}{576}$	0	0	$+\frac{2701}{2688}$
	[cos]	H	H	$+\frac{799}{144}$	H	H	$+\frac{56823}{3584}$
	[sin]	H	H	$+\frac{2759}{576}$	H	H	$+\frac{159665}{10752}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{53}{4}$	$-\frac{179}{24}$	$+\frac{977}{64}$	$+\frac{1541}{48}$	$-\frac{23479}{768}$	$+\frac{216917}{6144}$
	[cos − sin]	0	0	$+\frac{7579}{2880}$	0	0	$+\frac{467069}{129024}$
	[cos]	H	H	$+\frac{6443}{720}$	H	H	$+\frac{2511163}{129024}$
	[sin]	H	H	$+\frac{18193}{2880}$	H	H	$+\frac{1022047}{64512}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 2f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 2f$	[ ]^6		[ ]^7		[ ]^8	[ ]^9
		e^4	e^6	e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{209}{16}$	$-\frac{887}{20}$	$+\frac{78077}{3840}$	$-\frac{2228929}{30720}$	$+\frac{17807}{576}$	$+\frac{3313213}{71680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{345}{16}$	$-\frac{10569}{160}$	$+\frac{69251}{1920}$	$-\frac{5394109}{46080}$	$+\frac{42037}{720}$	$+\frac{3306951}{35840}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{533}{16}$	$-\frac{13827}{160}$	$+\frac{228347}{3840}$	$-\frac{3071075}{18432}$	$+\frac{73369}{720}$	$+\frac{12144273}{71680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	+ 49	− 98	$+\frac{44569}{480}$	$-\frac{133707}{640}$	$+\frac{241517}{1440}$	$+\frac{2619177}{8960}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{555}{8}$	$-\frac{7149}{80}$	$+\frac{533617}{3840}$	$-\frac{20449667}{92160}$	$+\frac{379691}{1440}$	$+\frac{34431741}{71680}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table $\left(\left(\frac{r}{a}\right) \dots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 3f$	$[\ ]^0$			$[\ ]^1$		
		e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$-\frac{5}{4}$	$-\frac{5}{32}$	$-\frac{3}{64}$	$+\frac{31}{8}$	$-\frac{77}{24}$	$+\frac{155}{1024}$
	[cos − sin]	,,	,,	,,	0	$-\frac{19}{384}$	$+\frac{3}{256}$
	[cos]	$-\frac{5}{4}$	$-\frac{5}{32}$	$-\frac{3}{64}$	H	$-\frac{417}{256}$	$+\frac{167}{2048}$
	[sin]	0	0	0	H	$-\frac{1213}{768}$	$+\frac{143}{2048}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$-\frac{5}{2}$	0	0	$+\frac{43}{8}$	$-\frac{25}{6}$	$+\frac{1069}{3072}$
	[cos − sin]	,,	,,	,,	0	$+\frac{37}{384}$	$+\frac{487}{3840}$
	[cos]	$-\frac{5}{2}$	0	0	H	$-\frac{521}{256}$	$+\frac{2431}{10240}$
	[sin]	0	0	0	H	$-\frac{1637}{768}$	$+\frac{3397}{30720}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{35}{8}$	0	0	$+\frac{57}{8}$	$-\frac{65}{16}$	$-\frac{19}{1024}$
	[cos − sin]	,,	,,	,,	0	$+\frac{75}{128}$	$+\frac{179}{640}$
	[cos]	$-\frac{35}{8}$	0	0	H	$-\frac{445}{256}$	$+\frac{1337}{10240}$
	[sin]	0	0	0	H	$-\frac{595}{256}$	$-\frac{1527}{10240}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	− 7	$-\frac{7}{8}$	0	$+\frac{73}{8}$	$-\frac{91}{48}$	$-\frac{1419}{1024}$
	[cos − sin]	,,	,,	,,	0	$+\frac{641}{384}$	$+\frac{341}{640}$
	[cos]	− 7	$-\frac{7}{8}$	0	H	$-\frac{29}{256}$	$-\frac{4367}{10240}$
	[sin]	0	0	0	H	$-\frac{1369}{768}$	$-\frac{9823}{10240}$

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...Table $\left(\left(\frac{r}{a}\right) \dots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 3f$	[ ]^2				[ ]^3			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$-\frac{7}{2}$	$+\frac{75}{8}$	$-\frac{659}{96}$	$+\frac{1687}{1152}$	$+1$	$-\frac{17}{2}$	$+\frac{1143}{64}$	$+\frac{1805}{128}$
	[cos − sin]	0	0	$-\frac{11}{480}$	$-\frac{13}{5760}$	0	0	0	$-\frac{69}{5120}$
	[cos]	H	H	$-\frac{551}{160}$	$+\frac{4211}{5760}$	H	H	H	$-\frac{72269}{10240}$
	[sin]	H	H	$-\frac{821}{240}$	$+\frac{11}{15}$	H	H	H	$-\frac{72131}{10240}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	-4	$+\frac{19}{2}$	$-\frac{79}{12}$	$+\frac{113}{72}$	$+1$	$-\frac{15}{2}$	$+\frac{927}{64}$	$-\frac{1415}{128}$
	[cos − sin]	0	0	$+\frac{1}{120}$	$+\frac{1}{36}$	0	0	0	$-\frac{1}{5120}$
	[cos]	H	H	$-\frac{263}{80}$	$+\frac{115}{144}$	H	H	H	$-\frac{56601}{10240}$
	[sin]	H	H	$-\frac{791}{240}$	$+\frac{37}{48}$	H	H	H	$-\frac{56599}{10240}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{9}{2}$	$+\frac{33}{4}$	$-\frac{133}{32}$	$+\frac{11}{16}$	$+1$	-6	$+\frac{591}{64}$	$-\frac{349}{64}$
	[cos − sin]	0	0	$+\frac{13}{160}$	$+\frac{1}{30}$	0	0	0	$+\frac{137}{5120}$
	[cos]	H	H	$-\frac{163}{80}$	$+\frac{173}{480}$	H	H	H	$-\frac{27783}{10240}$
	[sin]	H	H	$-\frac{339}{160}$	$+\frac{157}{480}$	H	H	H	$-\frac{28057}{10240}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	-5	$+\frac{21}{4}$	$+\frac{17}{48}$	$-\frac{71}{72}$	$+1$	-4	$+\frac{183}{64}$	$+\frac{65}{64}$
	[cos − sin]	0	0	$+\frac{2}{15}$	$+\frac{1}{720}$	0	0	0	$+\frac{37}{1024}$
	[cos]	H	H	$+\frac{30}{160}$	$-\frac{709}{1440}$	H	H	H	$+\frac{1077}{2048}$
	[sin]	H	H	$+\frac{53}{480}$	$-\frac{79}{160}$	H	H	H	$+\frac{1003}{2048}$

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... *Table* $\left(\left(\frac{r}{a}\right) \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 3f$	$[\ ]^4$				$[\ ]^5$		
		e	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{5}{2}$	$-\frac{63}{4}$	$+\frac{757}{24}$	$-\frac{1979}{72}$	$+\frac{37}{8}$	$-\frac{635}{24}$	$+\frac{54765}{1024}$
	[cos − sin]	0	0	0	$-\frac{47}{5040}$	0	0	0
	[cos]	H	H	H	$-\frac{138577}{10080}$	H	H	H
	[sin]	H	H	H	$-\frac{15387}{1120}$	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	+2	$-\frac{23}{2}$	$+\frac{65}{3}$	$-\frac{5317}{288}$	$+\frac{25}{8}$	$-\frac{50}{3}$	$+\frac{98875}{3072}$
	[cos − sin]	0	0	0	$-\frac{17}{10080}$	0	0	0
	[cos]	H	H	H	$-\frac{2908}{315}$	H	H	H
	[sin]	H	H	H	$-\frac{31013}{3360}$	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{3}{2}$	$-\frac{57}{8}$	+11	$-\frac{2905}{384}$	$+\frac{15}{8}$	$-\frac{135}{16}$	$+\frac{13975}{1024}$
	[cos − sin]	0	0	0	$+\frac{57}{4480}$	0	0	0
	[cos]	H	H	H	$-\frac{793}{210}$	H	H	H
	[sin]	H	H	H	$-\frac{50923}{13440}$	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	+1	−3	$+\frac{37}{24}$	$+\frac{251}{144}$	$+\frac{7}{8}$	$-\frac{109}{48}$	$+\frac{535}{1024}$
	[cos − sin]	0	0	0	$+\frac{79}{5040}$	0	0	0
	[cos]	H	H	H	$+\frac{277}{315}$	H	H	H
	[sin]	H	H	H	$+\frac{1451}{1680}$	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right) \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 3f$	[ ]^6			[ ]^7	
		e^3	e^5	e^7	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{61}{8}$	$-\frac{677}{16}$	$+\frac{56487}{640}$	$+\frac{4553}{384}$	$-\frac{84109}{1280}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{9}{2}$	$-\frac{189}{8}$	$+\frac{3807}{80}$	$+\frac{2401}{384}$	$-\frac{127253}{3840}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{9}{4}$	$-\frac{81}{8}$	$+\frac{2781}{160}$	$+\frac{343}{128}$	$-\frac{7889}{640}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{3}{4}$	$-\frac{27}{16}$	$-\frac{81}{160}$	$+\frac{245}{384}$	$-\frac{147}{128}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right) \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos \\ \sin\end{matrix} 3f.$

	$\begin{matrix}\cos \\ \sin\end{matrix} 3f$	$[\ ]^8$		$[\ ]^9$	$[\ ]^{10}$
		e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{8551}{480}$	$-\frac{288221}{2880}$	$+\frac{26809}{1024}$	$+\frac{305593}{8064}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{128}{15}$	$-\frac{416}{9}$	$+\frac{59049}{5120}$	$+\frac{15625}{1008}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{16}{5}$	$-\frac{76}{5}$	$+\frac{19683}{5120}$	$+\frac{3125}{672}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{8}{15}$	$-\frac{26}{45}$	$+\frac{2187}{5120}$	$+\frac{625}{2016}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \ldots$

		$[\ ]^0$			$[\ ]^1$		
$\begin{matrix}\cos\\ \sin\end{matrix} 3f$		e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$-\frac{1}{8}$	$-\frac{3}{32}$	$-\frac{9}{128}$	$+\frac{13}{8}$	$-\frac{41}{48}$	$-\frac{437}{3072}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{384}$	$-\frac{11}{960}$
	[cos]	$-\frac{1}{8}$	$-\frac{3}{32}$	$-\frac{9}{128}$	H	$-\frac{109}{256}$	$-\frac{787}{10240}$
	[sin]	0	0	0	H	$-\frac{329}{768}$	$-\frac{2009}{30720}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	0	0	0	$+\frac{7}{8}$	$-\frac{5}{24}$	$-\frac{29}{1024}$
	[cos − sin]	,,	,,	,,	0	$+\frac{5}{384}$	$+\frac{23}{1280}$
	[cos]	0	0	0	H	$-\frac{25}{256}$	$-\frac{53}{10240}$
	[sin]	0	0	0	H	$-\frac{85}{768}$	$-\frac{237}{10240}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	0	0	0	$+\frac{3}{8}$	0	$+\frac{23}{1024}$
	[cos − sin]	,,	,,	,,	0	$-\frac{1}{128}$	$-\frac{11}{1280}$
	[cos]	0	0	0	H	$-\frac{1}{256}$	$+\frac{71}{10240}$
	[sin]	0	0	0	H	$+\frac{1}{256}$	$+\frac{159}{10240}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	0	0	0	$+\frac{1}{8}$	$+\frac{1}{48}$	$+\frac{55}{3072}$
	[cos − sin]	,,	,,	,,	0	$+\frac{1}{384}$	$+\frac{1}{384}$
	[cos]	0	0	0	H	$+\frac{3}{256}$	$+\frac{21}{2048}$
	[sin]	0	0	0	H	$+\frac{7}{768}$	$+\frac{47}{6144}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{1}{8}$	$+\frac{7}{16}$	$+\frac{63}{64}$	$+\frac{1}{8}$	$+\frac{17}{48}$	$+\frac{837}{1024}$
	[cos − sin]	,,	,,	,,	0	$+\frac{65}{384}$	$+\frac{353}{640}$
	[cos]	$+\frac{1}{8}$	$+\frac{7}{16}$	$+\frac{63}{64}$	H	$+\frac{67}{256}$	$+\frac{7009}{10240}$
	[sin]	0	0	0	H	$+\frac{71}{768}$	$+\frac{1361}{10240}$

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$$\ldots \textit{Table} \left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5} \right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \ldots$$

	$\begin{matrix}\cos\\ \sin\end{matrix} 3f$	$[\,]^2$				$[\,]^3$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$-\frac{5}{2}$	$+\frac{13}{2}$	$-\frac{341}{96}$	$+\frac{187}{576}$	$+1$	-9	$+\frac{1143}{64}$	$-\frac{365}{32}$
	[cos − sin]	0	0	$+\frac{1}{120}$	$-\frac{1}{2880}$	0	0	0	$+\frac{9}{1024}$
	[cos]	H	H	$-\frac{567}{320}$	$+\frac{467}{2880}$	H	H	H	$-\frac{11671}{2048}$
	[sin]	H	H	$-\frac{1709}{960}$	$+\frac{13}{80}$	H	H	H	$-\frac{11689}{2048}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	-2	$+\frac{9}{2}$	$-\frac{41}{24}$	$+\frac{43}{288}$	$+1$	$-\frac{17}{2}$	$+\frac{951}{64}$	$-\frac{973}{128}$
	[cos − sin]	0	0	$+\frac{1}{120}$	$+\frac{23}{1440}$	0	0	0	$+\frac{27}{5120}$
	[cos]	H	H	$-\frac{17}{20}$	$+\frac{119}{1440}$	H	H	H	$-\frac{38893}{10240}$
	[sin]	H	H	$-\frac{103}{120}$	$+\frac{1}{15}$	H	H	H	$-\frac{38947}{10240}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$-\frac{3}{2}$	$+\frac{21}{8}$	$-\frac{19}{32}$	$+\frac{23}{192}$	$+1$	$-\frac{15}{2}$	$+\frac{687}{64}$	$-\frac{535}{128}$
	[cos − sin]	0	0	$-\frac{1}{80}$	$-\frac{1}{64}$	0	0	0	$-\frac{81}{5120}$
	[cos]	H	H	$-\frac{97}{320}$	$+\frac{5}{96}$	H	H	H	$-\frac{21481}{10240}$
	[sin]	H	H	$-\frac{93}{320}$	$+\frac{13}{192}$	H	H	H	$-\frac{21319}{10240}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	-1	$+\frac{5}{4}$	$-\frac{7}{48}$	$+\frac{23}{288}$	$+1$	-6	$+\frac{423}{64}$	$-\frac{125}{64}$
	[cos − sin]	0	0	$+\frac{1}{120}$	$+\frac{13}{1440}$	0	0	0	$+\frac{81}{5120}$
	[cos]	H	H	$-\frac{11}{160}$	$+\frac{2}{45}$	H	H	H	$-\frac{9919}{10240}$
	[sin]	H	H	$-\frac{37}{480}$	$+\frac{17}{480}$	H	H	H	$-\frac{10081}{10240}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$-\frac{1}{2}$	$+\frac{3}{4}$	$+\frac{61}{96}$	$+\frac{191}{144}$	$+1$	-4	$+\frac{255}{64}$	$+\frac{17}{64}$
	[cos − sin]	0	0	$+\frac{109}{480}$	$+\frac{31}{45}$	0	0	0	$+\frac{1553}{5120}$
	[cos]	H	H	$+\frac{69}{160}$	$+\frac{1451}{1440}$	H	H	H	$+\frac{2913}{10240}$
	[sin]	H	H	$+\frac{49}{240}$	$+\frac{51}{160}$	H	H	H	$-\frac{193}{10240}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos \\ \sin\end{matrix} 3f \ldots$

	$\begin{matrix}\cos \\ \sin\end{matrix} 3f$	[ ]^4				[ ]^5		
		e	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{7}{2}$	$-\frac{179}{8}$	$+\frac{2009}{48}$	$-\frac{8893}{288}$	$+\frac{67}{8}$	$-\frac{2279}{48}$	$+\frac{274345}{3072}$
	[cos − sin]	0	0	0	$+\frac{11}{1260}$	0	0	0
	[cos]	H	H	H	$-\frac{311167}{20160}$	H	H	H
	[sin]	H	H	H	$-\frac{103781}{6720}$	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	+ 4	− 24	$+\frac{241}{6}$	$-\frac{455}{18}$	$+\frac{85}{8}$	$-\frac{1355}{24}$	$+\frac{98525}{1024}$
	[cos − sin]	0	0	0	$+\frac{1}{315}$	0	0	0
	[cos]	H	H	H	$-\frac{15923}{1260}$	H	H	H
	[sin]	H	H	H	$-\frac{5309}{420}$	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{9}{2}$	− 24	$+\frac{545}{16}$	$-\frac{71}{4}$	$+\frac{105}{8}$	$-\frac{125}{2}$	$+\frac{94825}{1024}$
	[cos − sin]	0	0	0	$-\frac{2}{105}$	0	0	0
	[cos]	H	H	H	$-\frac{7463}{840}$	H	H	H
	[sin]	H	H	H	$-\frac{7447}{840}$	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	+ 5	− 22	$+\frac{607}{24}$	$-\frac{98}{9}$	$+\frac{127}{8}$	$-\frac{3065}{48}$	$+\frac{243805}{3072}$
	[cos − sin]	0	0	0	$+\frac{8}{315}$	0	0	0
	[cos]	H	H	H	$-\frac{1711}{315}$	H	H	H
	[sin]	H	H	H	$-\frac{191}{35}$	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{11}{2}$	$-\frac{141}{8}$	$+\frac{415}{24}$	$-\frac{5021}{1152}$	$+\frac{151}{8}$	$-\frac{2809}{48}$	$+\frac{63343}{1024}$
	[cos − sin]	0	0	0	$+\frac{16319}{40320}$	0	0	0
	[cos]	H	H	H	$-\frac{19927}{10080}$	H	H	H
	[sin]	H	H	H	$-\frac{32009}{13440}$	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right)$ $\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $3f$	[ ]^6			[ ]^7	
		e^3	e^5	e^7	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+17$	$-\frac{2949}{32}$	$+\frac{57213}{320}$	$+\frac{12085}{384}$	$-\frac{32419}{192}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{47}{2}$	$-\frac{239}{2}$	$-\frac{33951}{160}$	$+\frac{17969}{384}$	$-\frac{301973}{1280}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{251}{8}$	$-\frac{4611}{32}$	$+\frac{36249}{160}$	$+\frac{8547}{128}$	$-\frac{391951}{1280}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{163}{4}$	$-\frac{2577}{16}$	$+\frac{1089}{5}$	$+\frac{35413}{384}$	$-\frac{709471}{1920}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{207}{4}$	$-\frac{2625}{16}$	$+\frac{30483}{160}$	$+\frac{47621}{384}$	$-\frac{262731}{640}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H

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$\ldots$ *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 3f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 3f$	$[\ ]^8$		$[\ ]^9$	$[\ ]^{10}$
		e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{26371}{480}$	$-\frac{1710983}{5760}$	$+\frac{471527}{5120}$	$+\frac{604279}{4032}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{2611}{30}$	$-\frac{39893}{90}$	$+\frac{790053}{5120}$	$+\frac{532345}{2016}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{10531}{80}$	$-\frac{7363}{12}$	$+\frac{1258449}{5120}$	$+\frac{98715}{224}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{23029}{120}$	$-\frac{35614}{45}$	$+\frac{385095}{1024}$	$+\frac{44377}{63}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{65153}{240}$	$-\frac{2725199}{2880}$	$+\frac{2850411}{5120}$	$+\frac{2190757}{2016}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H

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...Table $\left(\left(\frac{r}{a}\right)^1 \dots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^0$		$[\ ]^1$			$[\ ]^2$		
		e^4	e^6	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{15}{16}$	$+\frac{9}{32}$	$-\frac{229}{48}$	$+\frac{2735}{768}$	$+\frac{2719}{30720}$	$+\frac{29}{4}$	$-\frac{101}{6}$	$+\frac{681}{64}$
	[cos − sin]	,,	,,	0	$+\frac{151}{3840}$	$+\frac{1423}{92160}$	0	0	$+\frac{37}{2880}$
	[cos]	$+\frac{15}{16}$	$+\frac{9}{32}$	H	$+\frac{6913}{3840}$	$+\frac{479}{9216}$	H	H	$+\frac{15341}{2880}$
	[sin]	0	0	H	$+\frac{1127}{640}$	$+\frac{3367}{92160}$	H	H	$+\frac{1913}{360}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{35}{16}$	$+\frac{7}{32}$	$-\frac{179}{24}$	$+\frac{2303}{384}$	$-\frac{1031}{3072}$	$+\frac{37}{4}$	$-\frac{83}{4}$	$+\frac{2639}{192}$
	[cos − sin]	,,	,,	0	$-\frac{17}{1920}$	$-\frac{1193}{15360}$	0	0	$+\frac{5}{576}$
	[cos]	$+\frac{35}{16}$	$+\frac{7}{32}$	H	$+\frac{5749}{1920}$	$-\frac{529}{2560}$	H	H	$+\frac{3961}{576}$
	[sin]	0	0	H	$+\frac{961}{320}$	$-\frac{1981}{15360}$	H	H	$+\frac{989}{144}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{35}{8}$	0	$-\frac{529}{48}$	$+\frac{6385}{768}$	$-\frac{20161}{30720}$	$+\frac{23}{2}$	$-\frac{139}{6}$	$+\frac{43}{3}$
	[cos − sin]	,,	,,	0	$-\frac{1159}{3840}$	$-\frac{25297}{92160}$	0	0	$-\frac{23}{720}$
	[cos]	$+\frac{35}{8}$	0	H	$+\frac{15383}{3840}$	$-\frac{4289}{9216}$	H	H	$+\frac{10297}{1440}$
	[sin]	0	0	H	$+\frac{2757}{640}$	$-\frac{17593}{92160}$	H	H	$+\frac{10343}{1440}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{63}{8}$	0	$-\frac{187}{12}$	$+\frac{1769}{192}$	$-\frac{311}{7680}$	$+14$	$-\frac{137}{6}$	$+\frac{171}{16}$
	[cos − sin]	,,	,,	0	$-\frac{1091}{960}$	$-\frac{13571}{23040}$	0	0	$-\frac{71}{720}$
	[cos]	$+\frac{63}{8}$	0	H	$+\frac{3877}{960}$	$-\frac{1813}{5760}$	H	H	$+\frac{953}{180}$
	[sin]	0	0	H	$+\frac{207}{40}$	$+\frac{6319}{23040}$	H	H	$+\frac{3883}{720}$

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^3$				$[\ ]^4$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$-\frac{9}{2}$	$+\frac{399}{16}$	$-\frac{5415}{128}$	$+\frac{58251}{2048}$	$+1$	$-\frac{31}{2}$	$+\frac{239}{4}$	$-\frac{6719}{72}$
	[cos − sin]	0	0	0	$+\frac{411}{71680}$	0	0	0	0
	[cos]	H	H	H	$+\frac{509799}{35840}$	H	H	H	H
	[sin]	H	H	H	$+\frac{1019187}{71680}$	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	-5	$+\frac{209}{8}$	$-\frac{2783}{64}$	$+\frac{31065}{1024}$	$+1$	$-\frac{29}{2}$	$+\frac{215}{4}$	$-\frac{5993}{72}$
	[cos − sin]	0	0	0	$+\frac{209}{35840}$	0	0	0	0
	[cos]	H	H	H	$+\frac{271871}{17920}$	H	H	H	H
	[sin]	H	H	H	$+\frac{543533}{35840}$	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{11}{2}$	$+\frac{411}{16}$	$-\frac{5025}{128}$	$+\frac{53459}{2048}$	$+1$	-13	$+\frac{353}{8}$	$-\frac{1151}{18}$
	[cos − sin]	0	0	0	$-\frac{541}{71680}$	0	0	0	0
	[cos]	H	H	H	$+\frac{467631}{35840}$	H	H	H	H
	[sin]	H	H	H	$+\frac{935803}{71680}$	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	-6	$+\frac{93}{4}$	$-\frac{933}{32}$	$+\frac{7929}{512}$	$+1$	-11	$+\frac{253}{8}$	$-\frac{346}{9}$
	[cos − sin]	0	0	0	$-\frac{459}{17920}$	0	0	0	0
	[cos]	H	H	H	$+\frac{4329}{560}$	H	H	H	H
	[sin]	H	H	H	$+\frac{138987}{17920}$	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

$\begin{matrix}\cos\\ \sin\end{matrix} 4f$		$[\ ]^5$				$[\ ]^6$		
		e	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{7}{2}$	$-\frac{585}{16}$	$+\frac{47435}{384}$	$-\frac{3517045}{18432}$	$+\frac{33}{4}$	$-\frac{147}{2}$	$+\frac{15075}{64}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+3$	$-\frac{239}{8}$	$+\frac{18875}{192}$	$-\frac{155175}{1024}$	$+\frac{25}{4}$	$-\frac{215}{4}$	$+\frac{10831}{64}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{5}{2}$	$-\frac{365}{16}$	$+\frac{26845}{384}$	$-\frac{1884125}{18432}$	$+\frac{9}{2}$	-36	$+\frac{855}{8}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+2$	$-\frac{63}{4}$	$+\frac{3989}{96}$	$-\frac{239275}{4608}$	$+3$	-21	$+\frac{435}{8}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	[ ]^7			[ ]^8	
		e^3	e^5	e^7	e^4	e^6
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{787}{48}$	$-\frac{103937}{768}$	$+\frac{13103351}{30720}$	$+\frac{1423}{48}$	$-\frac{37724}{160}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{269}{24}$	$-\frac{34601}{384}$	$+\frac{4312189}{15360}$	$+\frac{297}{16}$	$-\frac{13897}{96}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{343}{48}$	$-\frac{41503}{768}$	$+\frac{4923079}{30720}$	$+\frac{32}{3}$	$-\frac{1184}{15}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{49}{12}$	$-\frac{5243}{192}$	$+\frac{548261}{7680}$	$+\frac{16}{3}$	$-\frac{176}{5}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^9$		$[\ ]^{10}$	$[\ ]^{11}$
		e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{64653}{1280}$	$-\frac{4051137}{10240}$	$+\frac{47603}{576}$	$+\frac{84728011}{645120}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{18749}{640}$	$-\frac{1157699}{5120}$	$+\frac{25799}{576}$	$+\frac{1440343}{21504}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{19683}{1280}$	$-\frac{1161297}{10240}$	$+\frac{3125}{144}$	$+\frac{19487171}{645120}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{2187}{320}$	$-\frac{115911}{2560}$	$+\frac{625}{72}$	$+\frac{1771561}{161280}$
	[cos − sin]	0	0	0	0
	[cos]	H	H	H	H
	[sin]	H	H	H	H

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Table $\left(\left(\frac{r}{a}\right)^{-1} \dots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \dots$

		$[\ ]^0$		$[\ ]^1$			$[\ ]^2$		
$\begin{matrix}\cos\\ \sin\end{matrix} 4f$		e^4	e^6	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{1}{16}$	$+\frac{1}{16}$	$-\frac{73}{48}$	$+\frac{421}{768}$	$+\frac{4231}{30720}$	$+4$	$-\frac{33}{4}$	$+\frac{331}{96}$
	[cos − sin]	,,	,,	0	$-\frac{19}{3840}$	$-\frac{1}{10240}$	0	0	$-\frac{7}{1440}$
	[cos]	$+\frac{1}{16}$	$+\frac{1}{16}$	H	$+\frac{1043}{3840}$	$+\frac{1057}{15360}$	H	H	$+\frac{2479}{1440}$
	[sin]	0	0	H	$+\frac{177}{640}$	$+\frac{2117}{30720}$	H	H	$+\frac{1243}{720}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	0	0	$-\frac{17}{24}$	$+\frac{25}{384}$	$+\frac{47}{15360}$	$+\frac{11}{4}$	$-\frac{29}{6}$	$+\frac{21}{16}$
	[cos − sin]	,,	,,	0	$-\frac{7}{1920}$	$-\frac{361}{46080}$	0	0	$-\frac{1}{1440}$
	[cos]	0	0	H	$+\frac{59}{1920}$	$-\frac{11}{4608}$	H	H	$+\frac{1889}{2886}$
	[sin]	0	0	H	$+\frac{11}{320}$	$+\frac{251}{46080}$	H	H	$+\frac{1891}{2880}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	0	0	$-\frac{13}{48}$	$-\frac{29}{768}$	$-\frac{197}{6144}$	$+\frac{7}{4}$	$-\frac{29}{12}$	$+\frac{1}{3}$
	[cos − sin]	,,	,,	0	$+\frac{11}{3840}$	$+\frac{407}{92160}$	0	0	$+\frac{1}{288}$
	[cos]	0	0	H	$-\frac{67}{3840}$	$-\frac{637}{46080}$	H	H	$+\frac{97}{576}$
	[sin]	0	0	H	$-\frac{13}{640}$	$-\frac{1681}{92160}$	H	H	$+\frac{95}{576}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	0	0	$-\frac{1}{12}$	$-\frac{5}{192}$	$-\frac{149}{7680}$	$+1$	-1	$+\frac{1}{24}$
	[cos − sin]	,,	,,	0	$-\frac{1}{960}$	$-\frac{11}{7680}$	0	0	$-\frac{1}{360}$
	[cos]	0	0	H	$-\frac{13}{960}$	$-\frac{1}{96}$	H	H	$+\frac{7}{360}$
	[sin]	0	0	H	$-\frac{1}{80}$	$-\frac{23}{2560}$	H	H	$+\frac{1}{45}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	0	0	$-\frac{1}{48}$	$-\frac{7}{768}$	$-\frac{209}{30720}$	$+\frac{1}{2}$	$-\frac{1}{3}$	0
	[cos − sin]	,,	,,	0	$+\frac{1}{3840}$	$+\frac{31}{92160}$	0	0	$+\frac{1}{720}$
	[cos]	0	0	H	$-\frac{17}{3840}$	$-\frac{149}{46080}$	H	H	$+\frac{1}{1440}$
	[sin]	0	0	H	$-\frac{3}{640}$	$-\frac{329}{92160}$	H	H	$-\frac{1}{1440}$

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	$[\ ]^3$				$[\ ]^4$			
		e	e^3	e^5	e^7	e^0	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$-\frac{7}{2}$	$+\frac{307}{16}$	$-\frac{3717}{128}$	$+\frac{30571}{2048}$	+1	−16	$+\frac{239}{4}$	$-\frac{3019}{36}$
	[cos − sin]	0	0	0	$-\frac{261}{71680}$	0	0	0	0
	[cos]	H	H	H	$+\frac{267431}{35840}$	H	H	H	H
	[sin]	H	H	H	$+\frac{535123}{71680}$	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	−3	$+\frac{123}{8}$	$-\frac{1305}{64}$	$+\frac{8547}{1024}$	+1	$-\frac{31}{2}$	$+\frac{433}{8}$	$-\frac{9793}{144}$
	[cos − sin]	0	0	0	$+\frac{27}{35840}$	0	0	0	0
	[cos]	H	H	H	$+\frac{74793}{17920}$	H	H	H	H
	[sin]	H	H	H	$+\frac{149559}{35840}$	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$-\frac{5}{2}$	$+\frac{183}{16}$	$-\frac{1611}{128}$	$+\frac{8035}{2048}$	+1	$-\frac{29}{2}$	$+\frac{365}{8}$	$-\frac{7111}{144}$
	[cos − sin]	0	0	0	$+\frac{243}{71680}$	0	0	0	0
	[cos]	H	H	H	$+\frac{70367}{35840}$	H	H	H	H
	[sin]	H	H	H	$+\frac{140491}{71680}$	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	−2	$+\frac{31}{4}$	$-\frac{215}{32}$	$+\frac{819}{512}$	+1	−13	$+\frac{283}{8}$	$-\frac{1147}{36}$
	[cos − sin]	0	0	0	$-\frac{81}{17920}$	0	0	0	0
	[cos]	H	H	H	$+\frac{7146}{8960}$	H	H	H	H
	[sin]	H	H	H	$+\frac{14373}{17920}$	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$-\frac{3}{2}$	$+\frac{75}{16}$	$-\frac{393}{128}$	$+\frac{1251}{2048}$	+1	−11	$+\frac{199}{8}$	$-\frac{655}{36}$
	[cos − sin]	0	0	0	$+\frac{243}{71680}$	0	0	0	0
	[cos]	H	H	H	$+\frac{11007}{35840}$	H	H	H	H
	[sin]	H	H	H	$+\frac{21771}{71680}$	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	[ ]^5				[ ]^6		
		e	e^3	e^5	e^7	e^2	e^4	e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{9}{2}$	$-\frac{757}{16}$	$+\frac{58801}{384}$	$-\frac{1316215}{6144}$	$+13$	$-\frac{459}{4}$	$+\frac{11205}{32}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+5$	$-\frac{405}{8}$	$+\frac{29485}{192}$	$-\frac{1800725}{9216}$	$+\frac{63}{4}$	$-\frac{267}{2}$	$+\frac{12255}{32}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{11}{2}$	$-\frac{833}{16}$	$+\frac{55135}{384}$	$-\frac{2975165}{18432}$	$+\frac{75}{4}$	$-\frac{595}{4}$	$+\frac{12513}{32}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+6$	$-\frac{205}{4}$	$+\frac{11935}{96}$	$-\frac{184955}{1536}$	$+22$	$-\frac{317}{2}$	$+\frac{5945}{16}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{13}{2}$	$-\frac{765}{16}$	$+\frac{37925}{384}$	$-\frac{1493005}{18432}$	$+\frac{51}{2}$	$-\frac{321}{2}$	$+\frac{2613}{8}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$	[ ]^7 e^3	[ ]^7 e^5	[ ]^7 e^7	[ ]^8 e^4	[ ]^8 e^6
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{1471}{48}$	$-\frac{190507}{768}$	$+\frac{22796399}{30720}$	$+\frac{1027}{16}$	$-\frac{119323}{240}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{959}{24}$	$-\frac{119119}{384}$	$+\frac{13442527}{15360}$	$+\frac{2141}{24}$	$-\frac{53003}{80}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{2443}{48}$	$-\frac{284557}{768}$	$+\frac{29629663}{30720}$	$+\frac{2893}{24}$	$-\frac{40387}{48}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{763}{12}$	$-\frac{81193}{192}$	$+\frac{7623959}{7680}$	$+\frac{1273}{8}$	$-\frac{61219}{60}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{3751}{48}$	$-\frac{352919}{768}$	$+\frac{29213303}{30720}$	$+\frac{4943}{24}$	$-\frac{23591}{20}$
	[cos − sin]	0	0	0	0	0
	[cos]	H	H	H	H	H
	[sin]	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 4f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 4f$		$[\ ]^9$		$[\ ]^{10}$	$[\ ]^{11}$
			e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]		$+\frac{159263}{1280}$	$-\frac{9671209}{10240}$	$+\frac{65773}{288}$	$+\frac{86564393}{215040}$
	[cos − sin]		0	0	0	0
	[cos]		H	H	H	H
	[sin]		H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]		$+\frac{117099}{640}$	$-\frac{6819921}{5120}$	$+\frac{25435}{72}$	$+\frac{210276803}{322560}$
	[cos − sin]		0	0	0	0
	[cos]		H	H	H	H
	[sin]		H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]		$+\frac{333513}{1280}$	$-\frac{18298713}{10240}$	$+\frac{75947}{144}$	$+\frac{131087143}{129024}$
	[cos − sin]		0	0	0	0
	[cos]		H	H	H	H
	[sin]		H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]		$+\frac{115617}{320}$	$-\frac{5856453}{2560}$	$+\frac{110099}{144}$	$+\frac{27485931}{17920}$
	[cos − sin]		0	0	0	0
	[cos]		H	H	H	H
	[sin]		H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]		$+\frac{627003}{1280}$	$-\frac{28615329}{10240}$	$+\frac{155681}{144}$	$+\frac{1454039059}{645120}$
	[cos − sin]		0	0	0	0
	[cos]		H	H	H	H
	[sin]		H	H	H	H

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Table $\left(\left(\frac{r}{a}\right)^{-1} \dots \left(\frac{r}{a}\right)^{4}\right) \begin{matrix}\cos\\ \sin\end{matrix} 5f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^0$		$[\ ]^1$		$[\ ]^2$		
		e^6	e^7	e^4	e^6	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$-\frac{21}{32}$	$-\frac{21}{64}$	$+\frac{1961}{384}$	$-\frac{4109}{1280}$	$-\frac{277}{24}$	$+\frac{575}{24}$	$-\frac{24781}{1920}$
	[cos − sin]	,,	,,	0	$-\frac{1091}{46080}$	0	0	$-\frac{209}{40320}$
	[cos]	$-\frac{21}{32}$	$-\frac{21}{64}$	H	$-\frac{29803}{18432}$	H	H	$-\frac{52061}{8064}$
	[sin]	0	0	H	$-\frac{146833}{92160}$	H	H	$-\frac{2032}{315}$
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$-\frac{7}{4}$	$-\frac{7}{16}$	$+\frac{1131}{128}$	$-\frac{25429}{3840}$	$-\frac{97}{6}$	$+\frac{817}{24}$	$-\frac{2461}{120}$
	[cos − sin]	,,	,,	0	$-\frac{887}{46080}$	0	0	$-\frac{1}{105}$
	[cos]	$-\frac{7}{4}$	$-\frac{7}{16}$	H	$-\frac{61207}{18432}$	H	H	$-\frac{1149}{112}$
	[sin]	0	0	H	$-\frac{304261}{92160}$	H	H	$-\frac{17219}{1680}$
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$-\frac{63}{16}$	$-\frac{21}{64}$	$+\frac{5509}{384}$	$-\frac{21763}{1920}$	$-\frac{263}{12}$	$+\frac{2135}{48}$	$-\frac{2641}{96}$
	[cos − sin]	,,	,,	0	$+\frac{6067}{46080}$	0	0	$+\frac{13}{2016}$
	[cos]	$-\frac{63}{16}$	$-\frac{21}{64}$	H	$-\frac{103249}{18432}$	H	H	$-\frac{6931}{504}$
	[sin]	0	0	H	$-\frac{528379}{92160}$	H	H	$-\frac{27737}{2016}$
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$-\frac{63}{8}$	0	$+\frac{8501}{384}$	$-\frac{10543}{640}$	$-\frac{347}{12}$	$+\frac{2557}{48}$	$-\frac{3673}{120}$
	[cos − sin]	,,	,,	0	$+\frac{32251}{46080}$	0	0	$+\frac{281}{5040}$
	[cos]	$-\frac{63}{8}$	0	H	$-\frac{145369}{18432}$	H	H	$-\frac{30797}{2016}$
	[sin]	0	0	H	$-\frac{791347}{92160}$	H	H	$-\frac{154547}{10080}$

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 5f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	[ ]^3			[ ]^4			
		e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{93}{8}$	$-\frac{417}{8}$	$+\frac{77733}{1024}$	$-\frac{11}{2}$	$+\frac{207}{4}$	$-\frac{3715}{24}$	$+\frac{58583}{288}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{113}{8}$	-62	$+\frac{94081}{1024}$	-6	$+\frac{109}{2}$	$-\frac{484}{3}$	$+\frac{6917}{32}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{135}{8}$	$-\frac{1119}{16}$	$+\frac{103311}{1024}$	$-\frac{13}{2}$	$+\frac{443}{8}$	$-\frac{1885}{12}$	$+\frac{238195}{1152}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{159}{8}$	$-\frac{1191}{16}$	$+\frac{101103}{1024}$	-7	$+54$	$-\frac{3379}{24}$	$+\frac{1558}{9}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right)$ $\begin{matrix}\cos\\ \sin\end{matrix}$ $5f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^5$				$[\ ]^6$			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+1$	$-\frac{49}{2}$	$+\frac{9575}{64}$	$-\frac{441125}{1152}$	$+\frac{9}{2}$	$-\frac{561}{8}$	$+\frac{11415}{32}$	$-\frac{109167}{128}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+1$	$-\frac{47}{2}$	$+\frac{8975}{64}$	$-\frac{412175}{1152}$	$+4$	$-\frac{121}{2}$	$+\frac{1213}{4}$	$-\frac{11619}{16}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+1$	-22	$+\frac{7999}{64}$	$-\frac{177925}{576}$	$+\frac{7}{2}$	$-\frac{201}{4}$	$+\frac{7755}{32}$	$-\frac{9065}{16}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+1$	-20	$+\frac{6695}{64}$	$-\frac{138775}{576}$	$+3$	$-\frac{159}{4}$	$+\frac{2859}{16}$	$-\frac{12591}{32}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 5f \ldots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	[ ]^7			[ ]^8		
		e^2	e^4	e^6	e e^3	e^5	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{103}{8}$	$-\frac{3941}{24}$	$+\frac{780003}{1024}$	$+\frac{359}{12}$	$-\frac{32885}{96}$	$+\frac{1453367}{960}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{83}{8}$	$-\frac{259}{2}$	$+\frac{1829093}{3072}$	$+\frac{133}{6}$	$-\frac{2999}{12}$	$+\frac{263873}{240}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{65}{8}$	$-\frac{4667}{48}$	$+\frac{1331743}{3072}$	$+\frac{379}{24}$	$-\frac{8255}{48}$	$+\frac{141719}{192}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{49}{8}$	$-\frac{3283}{48}$	$+\frac{293853}{1024}$	$+\frac{32}{3}$	$-\frac{328}{3}$	$+\frac{6674}{15}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^1 \ldots \left(\frac{r}{a}\right)^4\right) \begin{matrix}\cos\\ \sin\end{matrix} 5f.$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^9$		$[\ ]^{10}$		$[\ ]^{11}$	$[\ ]^{12}$
		e^4	e^6	e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^1$	[cos + sin]	$+\frac{7887}{128}$	$-\frac{848529}{1280}$	$+\frac{11263}{96}$	$-\frac{1402147}{1152}$	$+\frac{9742939}{46080}$	$+\frac{409821}{1120}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^2$	[cos + sin]	$+\frac{5431}{128}$	$-\frac{578003}{1280}$	$+\frac{1817}{24}$	$-\frac{37429}{48}$	$+\frac{5931103}{46080}$	$+\frac{236641}{1120}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^3$	[cos + sin]	$+\frac{3563}{128}$	$-\frac{184221}{640}$	$+\frac{4433}{96}$	$-\frac{66859}{144}$	$+\frac{3389017}{46080}$	$+\frac{101971}{896}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^4$	[cos + sin]	$+\frac{2187}{128}$	$-\frac{107163}{640}$	$+\frac{625}{24}$	$-\frac{71875}{288}$	$+\frac{1771561}{46080}$	$+\frac{1944}{35}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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Table $\left(\left(\frac{r}{a}\right)^{-1} \dots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 5f \dots$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^0$		$[\ ]^1$		$[\ ]^2$		
		e^5	e^7	e^4	e^6	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$-\frac{1}{32}$	$-\frac{5}{128}$	$+\frac{167}{128}$	$-\frac{247}{960}$	$-\frac{31}{6}$	$+\frac{859}{96}$	$-\frac{18683}{6720}$
	[cos − sin]	,,	,,	0	$+\frac{151}{46080}$	0	0	$+\frac{13}{6720}$
	[cos]	$-\frac{1}{32}$	$-\frac{5}{128}$	H	$-\frac{2341}{18432}$	H	H	$-\frac{1867}{1344}$
	[sin]	0	0	H	$-\frac{12007}{92160}$	H	H	$-\frac{779}{560}$
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	0	0	$+\frac{209}{384}$	$+\frac{43}{1280}$	$-\frac{19}{6}$	$+\frac{55}{12}$	$-\frac{77}{96}$
	[cos − sin]	,,	,,	0	$+\frac{37}{46080}$	0	0	$-\frac{1}{2016}$
	[cos]	0	0	H	$+\frac{317}{18432}$	H	H	$-\frac{809}{2016}$
	[sin]	0	0	H	$+\frac{1511}{92160}$	H	H	$-\frac{101}{252}$
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	0	0	$+\frac{73}{384}$	$+\frac{211}{3840}$	$-\frac{43}{24}$	$+\frac{193}{96}$	$-\frac{103}{960}$
	[cos − sin]	,,	,,	0	$-\frac{47}{46080}$	0	0	$-\frac{17}{20160}$
	[cos]	0	0	H	$+\frac{497}{18432}$	H	H	$-\frac{109}{2016}$
	[sin]	0	0	H	$+\frac{2579}{92160}$	H	H	$-\frac{1073}{20160}$
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	0	0	$+\frac{7}{128}$	$+\frac{49}{1920}$	$-\frac{11}{12}$	$+\frac{35}{48}$	$+\frac{11}{480}$
	[cos − sin]	,,	,,	0	$+\frac{19}{46080}$	0	0	$+\frac{1}{1120}$
	[cos]	0	0	H	$+\frac{239}{18432}$	H	H	$+\frac{1}{84}$
	[sin]	0	0	H	$+\frac{1157}{92160}$	H	H	$+\frac{37}{3360}$
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	0	0	$+\frac{5}{384}$	$+\frac{1}{128}$	$-\frac{5}{12}$	$+\frac{5}{24}$	$+\frac{1}{96}$
	[cos − sin]	,,	,,	0	$-\frac{1}{9216}$	0	0	$-\frac{1}{2016}$
	[cos]	0	0	H	$+\frac{71}{18432}$	H	H	$+\frac{5}{1008}$
	[sin]	0	0	H	$+\frac{73}{18432}$	H	H	$+\frac{11}{2016}$

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...Table $\left(\left(\frac{r}{a}\right)^{-1} \dots \left(\frac{r}{a}\right)^{-5}\right)$ $\begin{matrix}\cos\\ \sin\end{matrix}$ $5f$...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $5f$	[ ]^3			[ ]^4			
		e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{59}{8}$	$-\frac{501}{16}$	$+\frac{39963}{1024}$	$-\frac{9}{2}$	$+\frac{337}{8}$	$-\frac{5683}{48}$	$+\frac{26119}{192}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{45}{8}$	$-\frac{177}{8}$	$+\frac{24501}{1024}$	-4	$+36$	$-\frac{565}{6}$	$+\frac{3475}{36}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{33}{8}$	$-\frac{29}{2}$	$+\frac{13281}{1024}$	$-\frac{7}{2}$	$+\frac{59}{2}$	$-\frac{3349}{48}$	$+\frac{17803}{288}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{23}{8}$	$-\frac{139}{16}$	$+\frac{6263}{1024}$	-3	$+23$	$-\frac{1145}{24}$	$+\frac{1703}{48}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{15}{8}$	$-\frac{75}{16}$	$+\frac{2535}{1024}$	$-\frac{5}{2}$	$+\frac{135}{8}$	$-\frac{715}{24}$	$+\frac{20945}{1152}$
	[cos − sin]	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right)^{\cos}_{\sin} 5f \ldots$

	$^{\cos}_{\sin} 5f$	$[\ ]^5$				$[\ ]^6$			
		e^0	e^2	e^4	e^6	e	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	+ 1	$-\frac{25}{1}$	$+\frac{9575}{64}$	$-\frac{103325}{288}$	$+\frac{11}{2}$	$-\frac{86}{1}$	$+\frac{13593}{32}$	$-\frac{60877}{64}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	+ 1	$-\frac{49}{2}$	$+\frac{8999}{64}$	$-\frac{363365}{1152}$	+ 6	$-\frac{183}{2}$	$+\frac{3465}{8}$	$-\frac{29175}{32}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	+ 1	$-\frac{47}{2}$	$+\frac{8095}{64}$	$-\frac{298655}{1152}$	$+\frac{13}{2}$	$-\frac{759}{8}$	$+\frac{13509}{32}$	$-\frac{26213}{32}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	+ 1	− 22	$+\frac{6935}{64}$	$-\frac{114085}{576}$	+ 7	$-\frac{383}{4}$	$+\frac{6275}{16}$	$-\frac{2751}{4}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	+ 1	− 20	$+\frac{5615}{64}$	$-\frac{80455}{576}$	$+\frac{15}{2}$	$-\frac{375}{4}$	$+\frac{11055}{32}$	$-\frac{8595}{16}$
	[cos − sin]	0	0	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right)$ $\begin{matrix}\cos\\ \sin\end{matrix}$ $5f$ ...

	$\begin{matrix}\cos\\ \sin\end{matrix}$ $5f$	[ ]^7			[ ]^8		
		e^2	e^4	e^6	e^3	e^5	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{149}{8}$	$-\frac{3771}{16}$	$+\frac{3242339}{3072}$	$+\frac{1201}{24}$	$-\frac{54151}{96}$	$+\frac{4603927}{1920}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{175}{8}$	$-\frac{6461}{24}$	$+\frac{1183371}{1024}$	$+\frac{188}{3}$	$-\frac{4115}{6}$	$+\frac{16781}{6}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{203}{8}$	$-\frac{896}{3}$	$+\frac{3712093}{3072}$	$+\frac{463}{6}$	$-\frac{38771}{48}$	$+\frac{46693}{15}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{233}{8}$	$-\frac{5149}{16}$	$+\frac{3701999}{3072}$	$+\frac{281}{3}$	$-\frac{22135}{24}$	$+\frac{99181}{30}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{265}{8}$	$-\frac{16135}{48}$	$+\frac{1169805}{1024}$	$+\frac{2695}{24}$	$-\frac{24485}{24}$	$+\frac{160513}{48}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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... *Table* $\left(\left(\frac{r}{a}\right)^{-1} \ldots \left(\frac{r}{a}\right)^{-5}\right) \begin{matrix}\cos\\ \sin\end{matrix} 5f.$

	$\begin{matrix}\cos\\ \sin\end{matrix} 5f$	$[\ ]^9$		$[\ ]^{10}$		$[\ ]^{11}$	$[\ ]^{12}$
		e^4	e^6	e^5	e^7	e^6	e^7
$\left(\frac{r}{a}\right)^{-1}$	[cos + sin]	$+\frac{14987}{128}$	$-\frac{394607}{320}$	$+\frac{11989}{48}$	$-\frac{161685}{64}$	$+\frac{22980061}{46080}$	$+\frac{2122251}{2240}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-2}$	[cos + sin]	$+\frac{19863}{128}$	$-\frac{2029257}{1280}$	$+\frac{8359}{24}$	$-\frac{983731}{288}$	$+\frac{33554587}{46080}$	$+\frac{40401}{28}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-3}$	[cos + sin]	$+\frac{25791}{128}$	$-\frac{2521323}{1280}$	$+\frac{1423}{3}$	$-\frac{1282973}{288}$	$+\frac{47722543}{46080}$	$+\frac{2391591}{1120}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-4}$	[cos + sin]	$+\frac{32907}{128}$	$-\frac{1516377}{640}$	$+\frac{7597}{12}$	$-\frac{67409}{12}$	$+\frac{66363649}{46080}$	$+\frac{1726833}{560}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H
$\left(\frac{r}{a}\right)^{-5}$	[cos + sin]	$+\frac{41355}{128}$	$-\frac{353187}{128}$	$+\frac{79711}{96}$	$-\frac{987035}{144}$	$+\frac{18100973}{9216}$	$+\frac{3906009}{896}$
	[cos − sin]	0	0	0	0	0	0
	[cos]	H	H	H	H	H	H
	[sin]	H	H	H	H	H	H

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The foregoing tables are read as follows: for instance, in the Table $(x^0, x^1, x^2, x^3)\begin{matrix}\cos\\ \sin\end{matrix} f$, p. 376, *et seq.*, the third and fourth lines of the x^0-compartment show that

$$\cos f = \quad -e$$
$$+(\tfrac{1}{2} \quad -\tfrac{9}{16}e^2 \quad +\tfrac{225}{384}e^4 \quad -\tfrac{4913}{18432}e^6 \quad)\,2\cos g$$
$$+(\ \tfrac{1}{2}e \quad -\tfrac{2}{3}e^3 \quad +\tfrac{3}{16}e^5 \quad -\tfrac{1}{45}e^7)\,2\cos 2g$$
$$+ \quad \&c.$$

$$\sin f = \quad (\tfrac{1}{2} \quad -\tfrac{7}{16}e^2 \quad +\tfrac{17}{384}e^4 \quad -\tfrac{2711}{18432}e^6 \quad)\,2\sin g$$
$$+(\ \tfrac{1}{2}e \quad -\tfrac{7}{12}e^3 \quad +\tfrac{1}{6}e^5 \quad -\tfrac{19}{720}e^7)\,2\sin 2g$$
$$+ \quad \&c.$$

and the first and second lines give the sum and difference respectively of the corresponding coefficients of the cosine and sine series.

Addition, 28th Dec. 1860.—The tables have been verified by me, on the proof-sheets; the x-tables, the cosine lines of the $\left(\frac{r}{a}\right)$-tables, and a portion of the sine lines of the same tables, in the manner explained at the commencement of the memoir; but for the remainder of the sine lines it was found easier to employ the following mode of verification; viz. the equation $\frac{r}{a} = 1 + x$, gives

$$\left\{\left(\frac{r}{a}\right)^4 - 4\left(\frac{r}{a}\right)^3 + 6\left(\frac{r}{a}\right)^2 - 4\left(\frac{r}{a}\right)\right\}\sin jf = (-1 + x^4)\sin jf;$$

and as regards the terms up to e^7, the limit of the tables,

$$\left\{\left(\frac{r}{a}\right)^{-5} - 5\left(\frac{r}{a}\right)^{-4} + 10\left(\frac{r}{a}\right)^{-3} - 10\left(\frac{r}{a}\right)^{-2} + 5\left(\frac{r}{a}\right)^{-1}\right\}\sin jf = (1 - x^5 + 5x^6 - 15x^7)\sin jf,$$

which equations afford the verification referred to. In going over the earlier sheets I omitted to see that the fractions were in their least terms, and it may happen that, in some instances, they are not so. [A few reductions have been made, and I believe that the fractions are now all in their least terms.]

The expression for the true anomaly f itself has been repeatedly calculated to a much greater extent, in particular by Schubert (*Astronomie Théorique, Pet.* 1822), as far as e^{20}. The easiest way of obtaining it seems to be by means of the equation

$$\frac{df}{dg} = \left(\frac{r}{a}\right)^{-2}\sqrt{1-e^2};$$

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and, for the convenience of reference, I here give it as far as e^7, viz.,

$$f = g + \Sigma\,[\sin]^i \sin ig,$$

where, as in the other sine series, i is to be taken as well negatively as positively, and $[\sin]^{-i} = -[\sin]^i$. Or, what is the same thing,

$$f = g + \Sigma\,[\sin]^i\, 2 \sin ig,$$

where i has only positive values. And the coefficients are

	e	e^2	e^3	e^4	e^5	e^6	e^7
$[\sin]^1 =$	1		$-\frac{1}{8}$		$+\frac{5}{192}$		$+\frac{107}{9216}$
$[\sin]^2 =$		$+\frac{5}{8}$		$-\frac{11}{48}$		$+\frac{17}{384}$	
$[\sin]^3 =$			$+\frac{13}{24}$		$-\frac{43}{128}$		$+\frac{95}{1024}$
$[\sin]^4 =$				$+\frac{103}{192}$		$-\frac{451}{960}$	
$[\sin]^5 =$					$+\frac{1097}{1920}$		$-\frac{5957}{9216}$
$[\sin]^6 =$						$+\frac{1223}{1920}$	
$[\sin]^7 =$							$+\frac{47273}{64512}$

The expression for $\frac{r}{a}$, as far as e^{13}, is given in Schubert's work, above referred to; and that of $\log\left(\frac{r}{a}\right)$, as far as e^9, was calculated by Oriani, see the Introduction to Delambre's *Tables du Soleil*, Paris, 1806.

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