Charts

Calendar + Astronomical Features
around 1844

	V Tab.	Arg. at Date	Value
71	15		
33	16		
72	17		
73	18		
74	19		
76	21		
77	22		
	Sum		
	k (Tab. 19-200)		
	9 (Const.)		
	Σ_8		
	Σ_9 = sum		
	Tab. 24		
	" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19-200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19-200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19-200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

	V Tab.	Arg. at Date	Value
71	15		
33	16		
72	17		
73	18		
74	19		
76	21		
77	22		
	Sum		
	k (Tab. 19-200)		
	9 (Const.)		
	Σ_8		
	Σ_9 = sum		
	Tab. 24		
	" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19-200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19-200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19-200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

	V Tab.	Arg. at Date	Value
71	15		
33	16		
72	17		
73	18		
74	19		
76	21		
77	22		
	Sum		
	k (Tab. 19–200)		
	9 (Const.)		
	Σ_8		
	Σ_9 = sum		
	Tab. 24		
	" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19–200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19–200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

V Tab	Arg. at Date	Value
15		
16		
17		
18		
19		
21		
22		
Sum		
k (Tab. 19–200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24		
" Parallax		

Moon Tables (Brown)

Date =

Tab	Arg,	D	1	2	3	4	5	6	7	12	16	17	18	19
2														
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2								
2	S.V.							
3								
4								
3								
3	-Per.			−1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg.	D	1	2	3	4	5	6	7	12	16	17	18	19
2														
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg.	D	1	2	3	4	5	6	7	12	16	17	18	19
2														
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	$-\Omega$	ϖ		
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg.	D	1	2	3	4	5	6	7	12	16	17	18	19
2														
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☊		
2								
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Moon's place at -515,
Date $= -600^{y} + 85^{y}$

Moon Tables (Brown)

G.M.T. $= -600^{y} + 85^{y}$ $= -600^{y} + 85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	ϖ		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon's place at −515,
Date = $-600^{y}+85^{y}$

Moon Tables (Brown)

G.M.T. $=-600^{y}+85^{y}$ $=-600^{y}+85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☋		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon's place at −515,
Date = $-600^y + 85^y$

Moon Tables (Brown)

G.M.T. $= -600^y + 85^y$ $= -600^y + 85^y$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon Tables (Brown)

Moon's place at -515,
Date $= -600^{y} + 85^{y}$

G.M.T. $= -600^{y} + 85^{y}$ $= -600^{y} + 85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	$-\Omega$	☊		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon's place at -515,
Date $= -600^{y} + 85^{y}$

Moon Tables (Brown)

G.M.T. $= -600^{y} + 85^{y}$ $= -600^{y} + 85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon's place at -515,
Date $= -600^{y} + 85^{y}$

Moon Tables (Brown)

G.M.T. $= -600^{y} + 85^{y}$ $= -600^{y} + 85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon's place at −515,
Date = $-600^{y}+85^{y}$

Moon Tables (Brown)

G.M.T. = $-600^{y}+85^{y}$ = $-600^{y}+85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon's place at −515,
Date = $-600^{y}+85^{y}$

Moon Tables (Brown)

G.M.T. $=-600^{y}+85^{y}$ $=-600^{y}+85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	-Per.			− 1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	−Per.			− 1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☋		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	-Per.			− 1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date = _____

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	-Per.			−1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date = _____

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	-Per.			− 1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☋		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	-Per.			− 1296000	−1296000			
3	Adj.							
	Sums							

Moon Tables (Brown)

Date =

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	0	6.8709	9.425	125.76	38.00	67.63	52.70	115.23	39.44	14.34	185.565	40.36	20.16	3.95
2	S.V.													
3														
4														
3	-1 Per.													
3	-Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	0	5.5 410.1	7.5 106.7	1.5 152.7	26.5 116.95	13.5 65.1	3.5 48.7	16.0 188.9
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	0	27.0 159.631	6.5 218.10	15.0 110.15	6.5 72.70	105.0 11.47	4.0 201.97	15.0 38.5
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	0	9.5 0.1	3.0 92.6	5.0 21.9	4.0 19.43	144.0 0.4	8.0 81.6	2.5 36.0
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	0	5.0 140.7	7.0 97.5	1.5 50.7	31.0 14.37	8.0 15.5	11.5 42.2	10.0 62.27
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	0	7.5 68.5	12.5 49.3	349.4	126.0 3.67	4.5 16.0	23.0 14.7	2.5 141
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	0	27.0 106.42	15.0 35.84	4.0 202.0	5.5 48.6	3.0 18.3	9.5 0.0	6257
2	S.V.							
3								
4								
3								
3	-Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☋		
2	0	6178	6185	295401	1192540	310177		
2	S.V.							
3								
4								
3								
3	-Per.			− 1296000	−1296000			
3	Adj.							
	Sums							

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum / Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum / k x 1st sum		
Σ_3		
Longitude = sum " Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k				
S = sum				

IV Tab	Arg.		Date	
1 34				
2 35				
3 36				
4 37				
5 38				
16 43				
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 x 37 ÷ 10 =				
Sum = C			= Σ_6	

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

Dropping of digits from VI indicated by divisors 10 & 100

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

IV Tab	Arg. at Date	Value
53 19		
54 20		
55 21		
56 22		
57 23		
58 24		
59 25		
60 26		
61 27		
62 28		
Sum		
− Consts.		
k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum		
$\Sigma_7 \times C \div 10^5$ =		
Latitude = sum " Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F.		=		
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24, Tab. Arg. " Parallax		

Drop 1 digit from figures in Table 24, V

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum / Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum / k x 1st sum		
Σ_3		
Longitude = sum " Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k				
S = sum				

IV Tab	Arg.		Date	
1 34				
2 35				
3 36				
4 37				
5 38				
16 43				
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 x 37 ÷ 10 =				
Sum = C			= Σ_6	

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

Dropping of digits from VI indicated by divisors 10 & 100

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

IV Tab	Arg. at Date	Value
53 19		
54 20		
55 21		
56 22		
57 23		
58 24		
59 25		
60 26		
61 27		
62 28		
Sum		
− Consts.		
k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum		
$\Sigma_7 \times C \div 10^5$ =		
Latitude = sum " Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F.		=		
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum Tab. 24, Tab. Arg. " Parallax		

Drop 1 digit from figures in Table 24, V

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16				
19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum				
Σ_3 { Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum		
Σ_2 { k x 1st sum		
Σ_3		
Longitude = sum « Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k − ☊				
S = sum				

IV Tab	Arg.		Date	
1 34				
2 35				
3 36				
4 37				
5 38				
16 43				
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 x 37 ÷ 10 =				
Sum = C			= Σ_6	

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

Dropping of digits from VI indicated by divisors 10 & 100

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

IV Tab	Arg. at Date	Value
53 19		
54 20		
55 21		
56 22		
57 23		
58 24		
59 25		
60 26		
61 27		
62 28		
Sum		
− Consts.		
k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum		
$\Sigma_7 \times C \div 10^5$ =		
Latitude = sum « Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F. =				
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum Tab. 24, Tab. Arg. « Parallax		

Drop 1 digit from figures in Table 24, V

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 19				
Sum I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum / Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum / k x 1st sum		
Σ_3		
Longitude = sum " Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k − ∫				
S = sum				

IV Tab	Arg.		Date	
1	34			
2	35			
3	36			
4	37			
5	38			
16	43			
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 x 37 ÷ 10 =				
Sum = C				= Σ_6

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Dropping of digits from VI indicated by divisors 10 & 100

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

IV Tab	Arg. at Date	Value
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
Sum − Consts. k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum Σ_7 x C ÷ 10^5 =		
Latitude = sum " Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F. =				
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum Tab. 24, Tab. Arg. " Parallax		

Drop 1 digit from figures in Table 24, V

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16				
19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum				
Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum		
k x 1st sum		
Σ_3		
Longitude = sum		
" Tab. 5, II		

Drop one digit from IV & V

	IV Tab	Arg.		Date	
1					
2					
3					
4					
5					
6					
7					
	Sum				
16	12				
17	13				
18	14				
19	15				
	Sum				
	I.F. k x 1st sum =				
	Σ_4 = sum				
	Σ_2				
	P34 ÷ 10				
	P35 (P34 − 10^3) ÷ 10				
	19 + 9k				
	S = sum				

	IV Tab	Arg.		Date	
1	34				
2	35				
3	36				
4	37				
5	38				
16	43				
	Sum				
	I.F.				
	− Consts.				
	P36 ÷ 10 =				
	P36 x 37 ÷ 10 =				
	Sum = C		= Σ_6		

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

Dropping of digits from VI indicated by divisors 10 & 100

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

	IV Tab	Arg. at Date	Value
53	19		
54	20		
55	21		
56	22		
57	23		
58	24		
59	25		
60	26		
61	27		
62	28		
	Sum − Consts. k (1st two lines − 340)		
	Σ_5 = sum Tab. 33, Arg. S =		
	Σ_7 = sum $\Sigma_7 \times C \div 10^5$ =		
	Latitude = sum " Tab. 5, II		

	V Tab	Arg		Date	
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	Sum				
16	10				
17	11				
18	12				
19	13				
	Sum				
	I.F.		=		
	k (1st sum − 595) =				
	Σ_8 = sum				

	V Tab	Arg. at Date	Value
71	15		
33	16		
72	17		
73	18		
74	19		
76	21		
77	22		
	Sum		
	k (Tab. 19 − 200)		
	9 (Const.)		
	Σ_8		
	Σ_9 = sum		
	Tab. 24, Tab. Arg. " Parallax		

Drop 1 digit from figures in Table 24, V

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum / Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum / k x 1st sum		
Σ_3		
Longitude = sum Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k − δ				
S = sum				

IV Tab	Arg.		Date	
1	34			
2	35			
3	36			
4	37			
5	38			
16	43			
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 x 37 ÷ 10 =				
Sum = C			= Σ_6	

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

Dropping of digits from VI indicated by divisors 10 & 100

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

IV Tab	Arg. at Date	Value
53 19		
54 20		
55 21		
56 22		
57 23		
58 24		
59 25		
60 26		
61 27		
62 28		
Sum		
− Consts.		
k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum		
$\Sigma_7 \times C \div 10^5$ =		
Latitude = sum " Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F.		=		
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum		
Tab. 24, Tab. Arg. " Parallax		

Drop 1 digit from figures in Table 24, V

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum / Tab. 47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum / k x 1st sum		
Σ_3		
Longitude = sum " Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k − ∫				
S = sum				

IV Tab	Arg.		Date	
1 34				
2 35				
3 36				
4 37				
5 38				
16 43				
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 x 37 ÷ 10 =				
Sum = C			= Σ_6	

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

I.F. =
For Tab. P23 VI
Date =
Per. = x 270.95 =
Arg. =

k =

For Tab. P24 VI
Date =
Per. = x 257.14 =
Arg. =

Dropping of digits from VI indicated by divisors 10 & 100

Interpolating Factor
If D = 16.353, I.F. = 2 x (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 x (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 x (.022) = +.04

IV Tab	Arg. at Date	Value
53 19		
54 20		
55 21		
56 22		
57 23		
58 24		
59 25		
60 26		
61 27		
62 28		
Sum		
− Consts.		
k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum		
$\Sigma_7 \times C \div 10^5$ =		
Latitude = sum " Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F.		=		
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum Tab. 24, Tab. Arg. " Parallax		

Drop 1 digit from figures in Table 24, V

Constants — Arguments (Newcomb)

	Mercury I	Venus II	Mars III	Jupiter IV	Saturn V	Moon VI	Earth VII	VIII	IX	Mean Obliquity k	ε	(a)	
Tab. I 0													
" II 1923													
" V													
" VI													
Total													
Per. of Arg.													

Variables

	Moon's Age M	A	D	U	B	N	C	☽	L	τ
Tab. I 0										
" II 1923										
" III										
" IV										
" V										
Total										
Per. of Arg.										

Longitude

Tab. VII, Arg. I
" VIII " II
" IX " III
" X " IV
" XI " V
Σ

Δ′
Δ″
Sum for g = ____

D
Tab. XIII, Arg. VI
" XIV, " VII
Σ

Δ′
Δ″
Σ for D = ____

L
Tabs. VII to XI
" XIII and XIV
" XII, Arg. A
" XV, " D
" XVI, " M
" XVII, " M
Nut
λ

Nutation — In Long. (δψ) — In Ob. (δε)

Tab. XXXII, Arg. N
" XXXIII, δay + k
" XXXIV, ☽ and IX
" XXXV, ☽ and IX
" XXXVI, D and VI
" XXXVII, C
Σ for Nut

Sidereal Time

Latitude

g
Tab. XXVIII, Arg. II
" XXIX, " V
Σ

Δ′
Σ for g = ____

Tab. XXVIII & XXIX
" XXX, Arg. VIII & U
" XXXI, " B

Latitude

Obliquity of Ecliptic

ε (Tables I and II)
(a) × fraction of cent.
δε
ε

ω = ____ $\lambda_\odot$ = ____ $\beta_\odot$ = ____

1 $\sin\delta = \sin\omega \sin\lambda \cos\beta + \cos\omega \sin\beta$
2 $\cos\delta \sin a = \cos\omega \sin\lambda \cos\beta - \sin\omega \sin\beta$
3 $\cos\delta \cos a = \cos\beta \cos\lambda$

1. log sin ω = ____ log cos ω = ____
log sin λ = ____ log sin β = ____
log cos β = ____

antilog
"
sin δ = ____ log sin δ = ____
∴ δ = ____

2 log cos ω = ____
log sin λ = ____ log sin ω = ____
log cos β = ____ log sin β = ____

antilog
= log ____
log cos δ = ____
log sin a = ____
∴ a = ____

3 log cos δ = ____ log cos β = ____
log cos a = ____ log cos λ = ____

$a_\zeta - a_\odot$ = ____

Constants — Arguments (Newcomb)

	Mercury I	Venus II	Mars III	Jupiter IV	Saturn V	Moon VI	Earth VII	VIII	IX	k	Mean Obliquity ε	(a)	
Tab. I 0													
" 1119													
" V													
" VI													
Total													
Per. of Arg.													

Variables

	M	A	Moon's Age D	U	B	N	C	D	L	τ
Tab. I 0										
" 1119										
" III										
" IV										
" V										
Total										
Per. of Arg.										

Longitude

Tab. VII, Arg. I				
" VIII " II				
" IX " III				
" X " IV				
" XI " V				
Σ				
Δ′				
Δ″				
Sum for g =				
Tab. XIII, Arg. VI				
" XIV; " VII				
Σ				
Δ′				
Δ″				
Σ for D =				
L				
Tabs. VII to XI				
" XIII and XIV				
" XII, Arg. A				
" XV, " D				
" XVI, " M				
" XVII, " M				
Nut				
λ				

Nutation — In Long. (δψ) In Ob. (δε)

Tab. XXXII, Arg. N		
" XXXIII, δay + k		
" XXXIV, ☽ and IX		
" XXXV, ☽ and IX		
" XXXVI, D and VI		
" XXXVII, C		
Σ for Nut		

Sidereal Time

Latitude

	g				
Tab. XXVIII, Arg.	II				
" XXIX, "	V				
Σ					
Δ′					
Σ for g =					
Tab. XXVIII & XXIX					
" XXX, Arg. VIII & U					
" XXXI, " B					
Latitude					

Obliquity of Ecliptic

ε (Tables I and II) _____

(a) × fraction of cent. _____

δε _____

ε _____

ω = _____ $\lambda_\odot$ = _____ $\beta_\odot$ = _____

1 $\sin\delta = \sin\omega \sin\lambda \cos\beta + \cos\omega \sin\beta$

2 $\cos\delta \sin a = \cos\omega \sin\lambda \cos\beta - \sin\omega \sin\beta$

3 $\cos\delta \cos a = \cos\beta \cos\lambda$

1. log sin ω = _____ log cos ω = _____
   log sin λ = _____ log sin β = _____
   log cos β = _____
   _____ antilog
   _____ "
   sin δ = _____ log sin δ = _____
   ∴ δ = _____

2. log cos ω = _____
   log sin λ = _____ log sin ω = _____
   log cos β = _____ log sin β = _____
   _____ antilog
   _____ = log _____
   log cos δ = _____
   log sin a = _____
   ∴ a = _____

3. log cos δ = _____ log cos β = _____
   log cos a = _____ log cos λ = _____

$a_\delta - a_\odot$ = _____

Constants — Arguments (Newcomb)

	Mercury I	Venus II	Mars III	Jupiter IV	Saturn V	Moon VI	Earth VII	VIII	IX	Mean Obliquity k	ε	(a)	
Tab. I 0													
" 1119													
" V													
" VI													
Total													
Per. of Arg.													

Variables

	Moon's Age M	A	D	U	B	N	C	D	L	τ
Tab. I 0										
" 1119										
" III										
" IV										
" V										
Total										
Per. of Arg.										

Longitude — Nutation — In Long. (δψ) In Ob. (δε)

Tab. VII, Arg. I					Tab. XXXII, Arg. N	
" VIII " II					" XXXIII, δay + k	
" IX " III					" XXXIV, D and IX	
" X " IV					" XXXV, D and IX	
" XI " V					" XXXVI, D and VI	
Σ					" XXXVII, C	
					Σ for Nut	
Δ′						
Δ″						
Sum for g =						
D						
Tab. XIII, Arg. VI						
" XIV, " VII						
Σ						
Δ′						
Δ″						
Σ for D =						
L						
Tabs. VII to XI						
" XIII and XIV						
" XII, Arg. A						
" XV, " D						
" XVI, " M						
" XVII, " M						
Nut						
λ						

Sidereal Time

Latitude

	g				
Tab. XXVIII, Arg. II					
" XXIX, " V					
Σ					
Δ′					
Σ for g =					
Tab. XXVIII & XXIX					
" XXX, Arg. VIII & U					
" XXXI, " B					
Latitude					

Obliquity of Ecliptic

ε (Tables I and II) _____

(a) × fraction of cent. _____

δε _____

ε _____

ω = _____ $\lambda_\odot$ = _____ $\beta_\odot$ = _____

1 $\sin\delta = \sin\omega\sin\lambda\cos\beta + \cos\omega\sin\beta$

2 $\cos\delta\sin\alpha = \cos\omega\sin\lambda\cos\beta - \sin\omega\sin\beta$

3 $\cos\delta\cos\alpha = \cos\beta\cos\lambda$

1. log sin ω = _____ log cos ω = _____

log sin λ = _____ log sin β = _____

log cos β = _____

_____

_____ antilog

_____ "

sin δ = _____ log sin δ = _____

∴ δ = _____

2 log cos ω = _____

log sin λ = _____ log sin ω = _____

log cos β = _____ log sin β = _____

_____

_____ antilog

_____

_____ = log _____

log cos δ = _____

log sin α = _____

∴ α = _____

3 log cos δ = _____ log cos β = _____

log cos α = _____ log cos λ = _____

$\alpha_\mathbb{C} - \alpha_\odot$ = _____

Constants

Arguments (Newcomb)

	Mercury I	Venus II	Mars III	Jupiter IV	Saturn V	Moon VI	Earth VII	VIII	IX	k	Mean Obliquity ε	(a)	
Tab. I 0													
" 1119													
" V													
" VI													
Total													
Per. of Arg.													

Variables

	Moon's Age M	A	D	U	B	N	C	☽	L	τ
Tab. I 0										
" 1119										
" III										
" IV										
" V										
Total										
Per. of Arg.										

Longitude

Tab. VII, Arg. I				
" VIII " II				
" IX " III				
" X " IV				
" XI " V				
Σ				
Δ′				
Δ″				
Sum for g =				
D				
Tab. XIII, Arg. VI				
" XIV, " VII				
Σ				
Δ′				
Δ″				
Σ for D =				
L				
Tabs. VII to XI				
" XIII and XIV				
" XII, Arg. A				
" XV, " D				
" XVI, " M				
" XVII, " M				
Nut				
λ				

Nutation

	In Long. (δψ)	In Ob. (δε)
Tab. XXXII, Arg. N		
" XXXIII, day + k		
" XXXIV, ☽ and IX		
" XXXV, ☽ and IX		
" XXXVI, D and VI		
" XXXVII, C		
Σ for Nut		

Sidereal Time

Latitude

	g				
Tab. XXVIII, Arg. II					
" XXIX, " V					
Σ					
Δ′					
Σ for g =					
Tab. XXVIII & XXIX					
" XXX, Arg. VIII & U					
" XXXI, " B					
Latitude					

Obliquity of Ecliptic

ε (Tables I and II) _____

(a) × fraction of cent. _____

δε _____

ε _____

ω = _____ $\lambda_\odot$ = _____ $\beta_\odot$ = _____

1 $\sin\delta = \sin\omega \sin\lambda \cos\beta + \cos\omega \sin\beta$

2 $\cos\delta \sin a = \cos\omega \sin\lambda \cos\beta - \sin\omega \sin\beta$

3 $\cos\delta \cos a = \cos\beta \cos\lambda$

1. log sin ω = _____ log cos ω = _____
log sin λ = _____ log sin β = _____
log cos β = _____
_____
_____ antilog
_____ "
sin δ = _____ log sin δ = _____
∴ δ = _____

2 log cos ω = _____
log sin λ = _____ log sin ω = _____
log cos β = _____ log sin β = _____
_____
_____ antilog
_____
_____ = log _____
log cos δ = _____
log sin a = _____
∴ a = _____

3 log cos δ = _____ log cos β = _____
log cos a = _____ log cos λ = _____

$a_\mathbb{C} - a_\odot$ = _____

Constants — Arguments (Newcomb)

	Mercury I	Venus II	Mars III	Jupiter IV	Saturn V	Moon VI	Earth VII	VIII	IX	k	Mean Obliquity ε	(a)	
Tab. I 0													
" II 19													
" V													
" VI													
Total													
Per. of Arg.													

Variables

	Moon's Age M	A	D	U	B	N	C	☽	L	τ
Tab. I 0										
" II 19										
" III										
" IV										
" V										
Total										
Per. of Arg.										

Longitude

Tab. VII, Arg. I
" VIII " II
" IX " III
" X " IV
" XI " V
Σ

Δ′
Δ″
Sum for g = ____

Tab. XIII, Arg. VI
" XIV; " VII
Σ

Δ′
Δ″
Σ for D = ____

Tabs. VII to XI (L)
" XIII and XIV
" XII, Arg. A
" XV, " D
" XVI, " M
" XVII, " M
Nut
λ

Nutation — In Long. (δψ) In Ob. (δε)

	In Long. (δψ)	In Ob. (δε)
Tab. XXXII, Arg. N		
" XXXIII, δay + k		
" XXXIV, ☽ and IX		
" XXXV, ☽ and IX		
" XXXVI, D and VI		
" XXXVII, C		
Σ for Nut		

Sidereal Time

Latitude

Tab. XXVIII, Arg. g II
" XXIX, " V
Σ

Δ′
Σ for g = ____

Tab. XXVIII & XXIX
" XXX, Arg. VIII & U
" XXXI, " B

Latitude

Obliquity of Ecliptic

ε (Tables I and II) ____
(a) × fraction of cent. ____
δε ____
ε ____

ω = ____ $\lambda_\odot$ = ____ $\beta_\odot$ = ____

1 $\sin\delta = \sin\omega\sin\lambda\cos\beta + \cos\omega\sin\beta$
2 $\cos\delta\sin\alpha = \cos\omega\sin\lambda\cos\beta - \sin\omega\sin\beta$
3 $\cos\delta\cos\alpha = \cos\beta\cos\lambda$

1. log sin ω = ____ log cos ω = ____
log sin λ = ____ log sin β = ____
log cos β = ____
____ antilog
____ "
sin δ = ____ log sin δ = ____
∴ δ = ____

2 log cos ω = ____
log sin λ = ____ log sin ω = ____
log cos β = ____ log sin β = ____
____
____ antilog
____
____ = log ____
log cos δ = ____
log sin α = ____
∴ α = ____

3 log cos δ = ____ log cos β = ____
log cos α = ____ log cos λ = ____

$\alpha_\delta - \alpha_\odot$ = ____

Moon's place at −515,

Moon Tables (Brown)

Date = $-600^{y}+85^{y}$ G.M.T. = $-600^{y}+85^{y}$ = $-600^{y}+85^{y}$

Tab	Arg	D	1	2	3	4	5	6	7	12	16	17	18	19
2	−600	3.4009	12.994	101.68	61.77	26.21	3.47	98.20	62.47	23.13	140.467	15.90	33.11	57.17
2	S.V.													
3														
4														
3	−1 Per.													
3	−Periods													
	Sums													

Tab	Arg	23	24	25	26	27	28	29
2	−600	1.5 578.0	4.5 69.7	20.0 38.1	17.0 94.47	15.5 17.7	8.0 5.9	18.5 200.5
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	30	31	32	33	34	35	36
2	−600	18.5 211.929	3.0 235.55	17.0 274.32	3.0 78.52	27.5 12.82	8.5 155.55	1.5 0.9
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	37	38	39	40	41	42	43
2	−600	7.5 270.7	4.0 150.0	0.5 20.9	7.5 89.01	57.0 18.3	23.5 35.8	2.0 86.8
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	44	45	46	47	53	54	55
2	−600	5.5 38.9	1.0 10.4	6.0 47.8	37.0 3.21	12.0 25.1	16.0 32.0	14.5 2.15
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	56	57	58	59	60	61	62
2	−600	6.5 61.9	15.5 105.3	214.3	43.5 4.62	1.5 160.7	16.0 35.1	7.5 154
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	71	72	73	74	76	77	82
2	−600	18.5 141.29	17.0 89.25	8.5 155.5	1.5 68.6	4.0 29.6	7.5 44.4	4644
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Tab	Arg	83	84	L	−☊	☌		
2	−600	4530	4539	126766″	885175″	537627		
2	S.V.							
3								
4								
3								
3	−Per.							
3	Adj.							
	Sums							

Drop last two digits from III

III Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 19				
Sum				
I.F. k x 1st sum				
Σ_1 = sum				
40				
41				
42				
43				
44				
45				
46				
47				
Σ_{10}				
Σ_3 { Sum / Tab.47 x k				

III Tab	Arg. at Date	Value
23		
24		
25		
26		
27		
28		
29		
Sum		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
Σ_2 { Sum / k x 1st sum		
Σ_3		
Longitude = sum « Tab. 5, II		

Drop one digit from IV & V

IV Tab	Arg.		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 12				
17 13				
18 14				
19 15				
Sum				
I.F. k x 1st sum =				
Σ_4 = sum				
Σ_2				
P34 ÷ 10				
P35 (P34 − 10^3) ÷ 10				
19 + 9k − ∫				
S = sum				

IV Tab	Arg.		Date	
1	34			
2	35			
3	36			
4	37			
5	38			
16	43			
Sum				
I.F.				
− Consts.				
P36 ÷ 10 =				
P36 × 37 ÷ 10 =				
Sum = C		= Σ_6		

VI Tab.	Arg.	Value
P22 ÷ 100		
P23 ÷ 100		
P24 ÷ 100		
24 + 9k =		
Σ_{10} = sum		

Dropping of digits from VI indicated by divisors 10 & 100

I.F. =
For Tab. P23 VI
Date =
Per. = × 270.95 =
Arg. =

k =

For Tab. P24 VI
Date =
Per. = × 257.14 =
Arg. =

Interpolating Factor
If D = 16.353, I.F. = 2 × (16.5 − 16.353) = −.29
If D = 16.653, I.F. = 2 × (16.653 − 16.5) = +.31
If D = 17.022, I.F. = 2 × (.022) = +.04

IV Tab	Arg. at Date	Value
53 19		
54 20		
55 21		
56 22		
57 23		
58 24		
59 25		
60 26		
61 27		
62 28		
Sum		
− Consts.		
k (1st two lines − 340)		
Σ_5 = sum Tab. 33, Arg. S =		
Σ_7 = sum		
$\Sigma_7 \times C \div 10^5$ =		
Latitude = sum « Tab. 5, II		

V Tab	Arg		Date	
1				
2				
3				
4				
5				
6				
7				
Sum				
16 10				
17 11				
18 12				
19 13				
Sum				
I.F.		=		
k (1st sum − 595) =				
Σ_8 = sum				

V Tab	Arg. at Date	Value
71 15		
33 16		
72 17		
73 18		
74 19		
76 21		
77 22		
Sum		
k (Tab. 19 − 200)		
9 (Const.)		
Σ_8		
Σ_9 = sum Tab. 24, Tab. Arg. « Parallax		

Drop 1 digit from figures in Table 24, V

Constants

Arguments (Newcomb)

	Mercury I	Venus II	Mars III	Jupiter IV	Saturn V	Moon VI	Earth VII	VIII	IX	Mean Obliquity k	ε	(a)	
Tab. I 0													
" II 1919													
" V													
" VI													
Total													
Per. of Arg.													

Variables

	Moon's Age M	A	D	U	B	N	C	☽	L	τ
Tab. I 0										
" II 1919										
" III										
" IV										
" V										
Total										
Per. of Arg.										

Longitude

Tab. VII, Arg. I				
" VIII " II				
" IX " III				
" X " IV				
" XI " V				
Σ				
Δ′				
Δ″				
Sum for g =				
Tab. XIII, Arg. VI				
" XIV, " VII				
Σ				
Δ′				
Δ″				
Σ for D =				
Tabs. VII to XI				
" XIII and XIV				
" XII, Arg. A				
" XV, " D				
" XVI, " M				
" XVII, " M				
Nut				
λ				

Nutation

	In Long. (δψ)	In Ob. (δε)
Tab. XXXII, Arg. N		
" XXXIII, 2ay + k		
" XXXIV, ☽ and IX		
" XXXV, ☽ and IX		
" XXXVI, D and VI		
" XXXVII, C		
Σ for Nut		

Sidereal Time

Latitude

	g				
Tab. XXVIII, Arg. II					
" XXIX, " V					
Σ					
Δ′					
Σ for g =					
Tab. XXVIII & XXIX					
" XXX, Arg. VIII & U					
" XXXI, " B					
Latitude					

Obliquity of Ecliptic

ε (Tables I and II)			
(a) × fraction of cent.			
δε			
ε			

ω = _____ $\lambda_\odot$ = _____ $\beta_\odot$ = _____

1 $\sin\delta = \sin\omega \sin\lambda \cos\beta + \cos\omega \sin\beta$

2 $\cos\delta \sin a = \cos\omega \sin\lambda \cos\beta - \sin\omega \sin\beta$

3 $\cos\delta \cos a = \cos\beta \cos\lambda$

1 log sin ω = _____ log cos ω = _____

log sin λ = _____ log sin β = _____

log cos β = _____

antilog

"

sin δ = _____ log sin δ = _____

∴ δ = _____

2 log cos ω = _____

log sin λ = _____ log sin ω = _____

log cos β = _____ log sin β = _____

antilog

= log _____

log cos δ = _____

log sin a = _____

∴ a = _____

3 log cos δ = _____ log cos β = _____

log cos a = _____ log cos λ = _____

$a_☾ - a_\odot$ = _____

1 $\sin\delta = \sin\omega\sin\lambda\cos\beta + \cos\omega\sin\beta$

2 $\cos\delta\sin\alpha = \cos\omega\sin\lambda\cos\beta - \sin\omega\sin\beta$

3 $\cos\delta\cos\alpha = \cos\beta\cos\lambda$

$\omega =$

$\lambda_\odot =$

$\beta_\odot =$

1 $\sin\delta =$

$\log\sin\omega =$ $\quad$ $\log\cos\omega =$

$\log\sin\lambda =$ $\quad$ $\log\sin\beta =$

$\log\cos\beta =$

$\sin\delta =$

$\log\sin\delta =$

$\delta =$

$\log\sin\lambda =$

$\log\cos\lambda =$

$\log\sin\omega =$

$\log\cos\omega =$

$\log\sin\beta =$

$\log\cos\beta =$

$\log\sin\delta =$

$\log\cos\delta =$

$\log\sin\alpha =$

$\log\cos\alpha =$

2 $\cos\delta\sin\alpha =$

$\log\cos\omega =$ $\quad$ $\log\sin\omega =$

$\log\sin\lambda =$ $\quad$ $\log\sin\beta =$

$\log\cos\beta =$

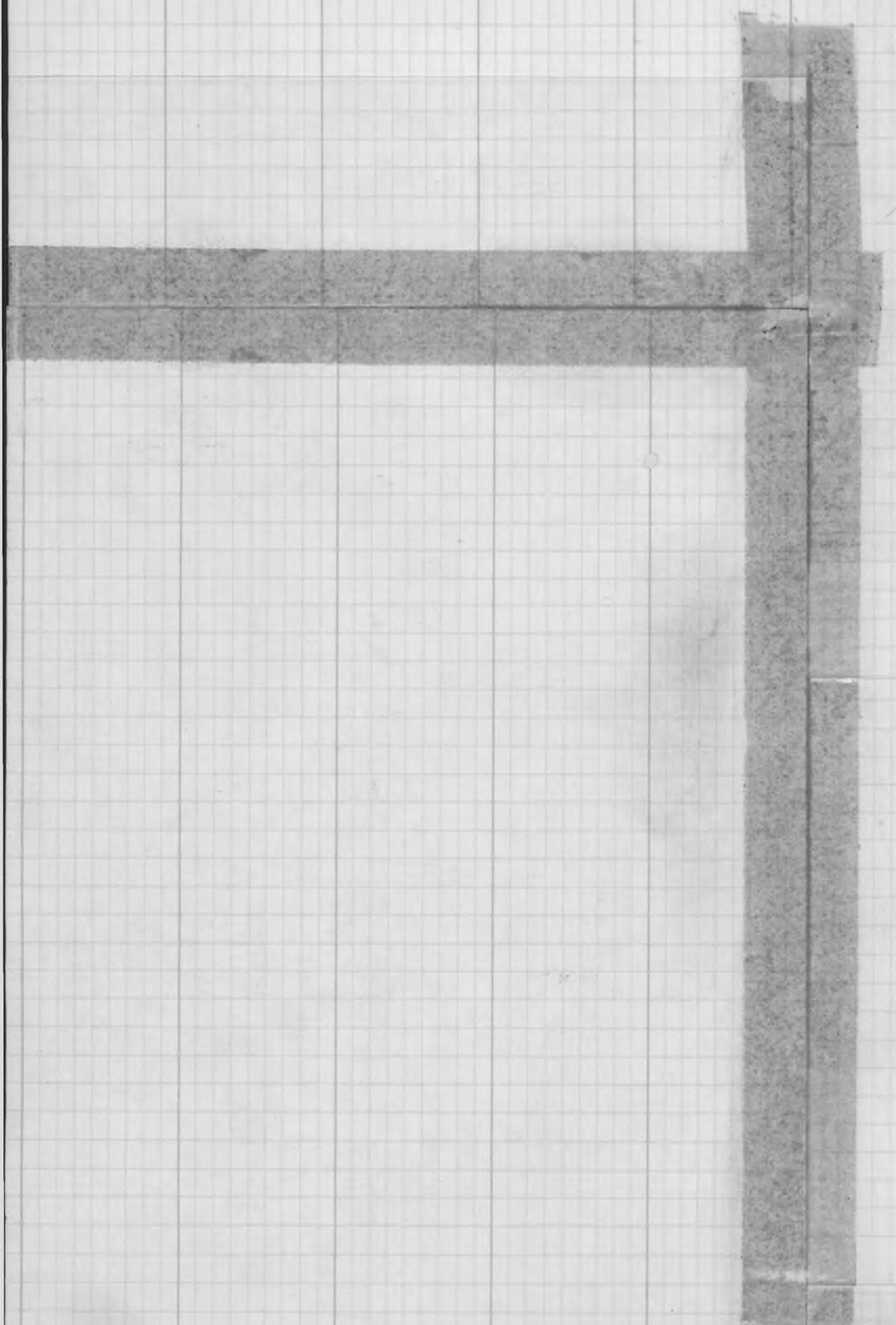
$= \log$

$\log\cos\delta =$

$\log\sin\alpha =$

$\log\cos\delta =$ $\quad$ $\log\cos\beta =$

$\log\cos\alpha =$ $\quad$ $\log\cos\lambda =$



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