

KG

11366

v.1004

CLH

152



10746

10748

10753

Star Measures				Sec. Star			
1	d	h	m	1	d	h	m
1	20400			20182			19870
15.9	10456	181	92	1537.0			14670
17.6	52		42	40			64
	94	84	98	74			67
	<u>15.9640</u>		<u>15.9644</u>		<u>17.9838</u>		<u>17.9810</u>
2	18742	206	80	19792			18965
21.4	14372	150	54	16128			12528
7.4	74		52	28			30 see below
	36		78	32			88
	<u>21.4366</u>		<u>21.4374</u>		<u>7.3610</u>		<u>7.3567</u>
3	20360	197	70	20705			20330
28.2	16878	132	40	18168			12847
19.4	82		34	72			47
	50		62	02			30
	<u>28.3476</u>		<u>28.3472</u>		<u>19.2537</u>		<u>19.2517</u>

Moon Measures				Sec. Star			
1	d	h	m	1	d	h	m
1	18430			20046	202	26	20730
22.1	17384	113	80	13612	158	50	16812
13	78		90	12		58	22
	26	105	00	38		22	22
	<u>22.0849</u>		<u>22.0885</u>		<u>7.3572</u>		<u>17.3610</u>
2				20110			
22.				19508			11996
13.1				02			90
				17			10887
				<u>13.0605</u>			<u>13.0609</u>
3	19706	194	47				
21.3	17042	121	30				
14	52		22				
	08		47				
	<u>21.2659</u>		<u>21.2681</u>				

Poor plate

<u>2</u>	20 3 2 6		20 3 7 0	20 3 8 8
99	10 4 5 0	1 9 1 7 2	1 5 9 8 2	1 9 7 3 4
	50	6 4	8 6	3 8
79	20	9 2 9 9	6 2	9 2
	<u>19.9870</u>	<u>19.9874</u>	<u>7.9380</u>	<u>7.9396</u>
<u>5</u>	20 1 1 8	1 9 1 9 0	1 9 9 5 2	20 2 3 0
	1 7 1 9 2	1 20 8 2	1 30 7 8	1 70 7 6
233	8 8	8 0	7 9	7 2
297	1 6	3 8	9 5 6	3 6
	<u>23.2928</u>	<u>23.2942</u>	<u>24.6878</u>	<u>24.6892</u>
			20 5 4 9	
			1 3 6 3 1	
			20	
			1 9	

Star Measures				Star Measures			
d		d		d		d	
1	20400			20182	19870		
15.9	10956	181.92		15340	19670		
17.6	52	92		90	69		
	99	8998		79	69		
	<u>15.9640</u>	<u>15.9649</u>		<u>17.9838</u>	<u>17.9810</u>		
2	18792	20680		19792	18965		
11.9	17372	15059		16128	12528		
7.9	77	52		28	1820		
	36	78		32	880		
	<u>21.9366</u>	<u>21.9379</u>		<u>7.3610</u>	<u>7.3567</u>		
3	20360	19770		20705	20330		
24.2	16878	13290		18168	12899		
19.9	82	39		72	99		
	50	62		02	30		
	<u>28.3976</u>	<u>28.3472</u>		<u>19.2539</u>	<u>19.2519</u>		

Moon Measures				Moon Measures			
d		d		d		d	
1	18430			20096	20226	20930	
22.1	17584	11380		13612	10850	10812	
13	78	90		12	58	22	
	26	10500		38	22	22	
	<u>22.0899</u>	<u>22.0885</u>		<u>17.3572</u>	<u>17.3610</u>		
2				20110			
22				19508	11996		
13.1				02	90		
				19	10889		
				<u>13.0605</u>	<u>13.0609</u>		
3	19706	19499					
11.3	17092	12130					
17	52	22					
	08	99					
	<u>21.2659</u>	<u>21.2681</u>					

2	20326		20370	20388
99	10450	19172	15982	19734
	50	64	86	38
74	20	9294	62	92
	<u>19,9870</u>	<u>199874</u>	<u>7,4380</u>	<u>7,4346</u>
5	20118	19140	19852	20230
	17192	12082	13078	17076
233	88	80	74	72
247	16	38	956	36
	<u>23,2928</u>	<u>23,2942</u>	<u>24,6878</u>	<u>24,6842</u>
			20540	
			13631	
			20	
			14	

10746

Moon Measures

2

4	18782	19400
-21.2	17358	10818
18.6	98	18
	76	02
	<u>21.1728</u>	<u>21.1716</u>

5	19594	18322
21.7	13078	19876
16	38	70
	90	08
	<u>21.6549</u>	<u>21.6557</u>

6	20068	20090
22	17068	13070
16.3	60	78
	66	90
	<u>16.30031</u>	<u>16.2983</u>

7	20262	19196
23	13966	15990
16.6	50	89
TM	58	90
	<u>16.6302</u>	<u>16.6299</u>

8	20560	20078	19890	19229
23.7	14950	15696	19196	19930
16.4	98	98	86	30
AC	60	78	96	32
	<u>23.5611</u>	<u>23.5621</u>	<u>16.5712</u>	<u>16.5702</u>

2nd Star	
19598	20122
15989	13696
78	700
82	22
<u>7.3611</u>	<u>3.576</u>

10796

Moon Measures.

2

2	18782	19409
21.2	17358	10818
19.6	48	18
	76	02

<u>21.1928</u>	<u>21.1916</u>
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5	19599	18322
217	13098	19876
16	38	70
	70	08

<u>21.6599</u>	<u>21.6557</u>
----------------	----------------

6
22
16.3

20068	20090
17068	13070
60	78
66	70
<u>16.30031</u>	<u>16.2983</u>

7
23
16.6
49

20262	19196
13966	15990
50	89
58	90
<u>16.6302</u>	<u>16.6299</u>

8	20560	20078
23.7	17950	15696
16.9	78	98
AC	60	78

<u>23.5611</u>	<u>23.5621</u>
----------------	----------------

19890	19229
19196	19930
86	30
96	32
<u>16.5712</u>	<u>16.5702</u>

2nd Star

19598	20122
15989	13696
78	700
82	22
<u>7.3611</u>	<u>3.576</u>

10746 Times Etc.

3

May 13/16

Exp. to Stars	12	23	12	35
" " Moon	12	29	01.012	29.01.2
clockfast		5	50.0	

H. Sid Time	12	23	11.1	✓	$\delta - \alpha = + 0^h$	7 ^m
H. Long	9	99	31.05			
q. Sid T.	17	07	72.15	✓		
Sid T. M. Noon	3	23	38.03	✓		
Interval	13	99	07.12	✓		
Reduction		2	157.00	✓		
q. M. T.	13	91	79.12	✓		

From Naut Alm.	R.A.	Dec.
Moon 13 ^h	12	19
Machon m/		2.0283
" 91.8187	1	29.82
Tabular Place	12	16
		03.82
		-6
		93
		27.8
		19.511
		6.9
		31.7

Morrison's age 12 days

Parallax	57	37.9	✓
Semid.	15	93.6	✓
R.		993.6	✓
Aug.		10.5	✓
Gr. (8)		-0.6	
R.		953.5	✓
R.		2.0739	✓
alt.		-968	✓
(1+a)R.		1.9771	✓
R.		3.7912	✓

937 = 10.3

$$\begin{array}{r}
 2 = 997.8 \\
 + 29 \\
 - 473.8
 \end{array}$$

10796

Sinner Etc.

3

May 13/16

Exp. 2 - Stars	12	23	12	35
" " Moon	12	29	01.012	29 01.2
Clock fast		5	50.0	

H. Sid Time	12	23	11.1	"	8-4 = +0" 7m
H. Long	9	19	31.05		
9. Sid J.	11	07	92.15	"	
Sid J. 14 noon	3	23	38.03	"	
Reduction	13	99	09.12	"	
Reduction		2	15.00	"	
9 M. J.	13	91	97.12	"	

From Hank Abbr.		N.A.		Rec.
Moon 13h	12	19	39.00	-6 33 27.8
Moon 13h			3.0293	- 17.511
91.8187		1	27.82	-10 6.8
Subur Place	12	16	03.82	-6 93 31.7

Moon's Age 12 days

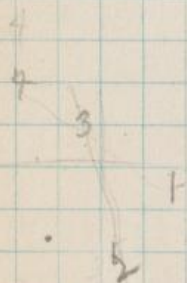
Parallat	57	37.9
Secund.	15	93.6
H.		993.6
Ang.		10.5
Ln (9)		-0.6
H.		953.5
H.		2,093.9
alt.		-968
(11+11)		1,997.1
H.		3791.2

937 = 10.3

$a = 997.8$
 $+ 2.9$
 $= 973.8$

$\bar{z}$	η	$\Delta \bar{z}$	-13	-1
-5.85	-0.53	-3	+6 = +1	
-1.69	-11.11	-2	+2 = 0	
+1.89	+6.99	+2	-2 = 0	
+7.16	+12.60	+9	-7 = +2	
		+1.61	-2	= -3 - 0.01

$\Delta \eta$	-3.93	-14	-8
= 05	+23	= +23	+ 0 = +23
-25	+7	= -18	+ 11 = -7
+37	-7	= 0	- 7 = -7
+63	-28	= +35	- 13 = +22
-3.52	+16	+9	-1.0
			= -0.5



10746

Plate Constants

7

x	y	x	y	x	y
-15.9642	17.9829	12 12	0.265	7 03	59.2
21.7370	7.3591				
28.3474	19.2529	12 18	50.25	6 50	00.1
2) 75.3116	36.7348	30	6296	13 53	54.3
22.6558	18.3674	12 15	26.45	6 56	57.1
22	18		-20.31	-2	51.2
-1.6558	-1.3674	12 15	6.74	-6 59	48.3
315	466.5				
-20.31	-171.21	Mgouls Center { A = 12 15 06 D = -6 59 48			
19.9872	7.4363				
23.2935	28.6860				

$x-7$	+500x	+63.74	-2.17x	-7217
-1898	+7982	= +6134	+1108	= 7292 - 35 = +7247 -10
-3195	+9994	= 6799	+971	= 7270 - 43 = 7227 +10
-5934	+11697	= 5713	+1565	= 7278 - 51 = 7227 +10
-8126	+14174	= 6048	+1221	= 7269 - 61 = 7208 -9
23.0864	+11.543	+931	-50	23.6071

$y-11$	+500y	-59.2x	+3.07y	-8002
+150	+8791	= +8891 - 945	= +7946 +59	= 8005 +3
+5439	+3718	= 9157 - 1183	= 7974 +25	= 7999 -3
-3079	+12393	= 9294 - 1379	= 7915 +83	= 7998 -4
-10	+9626	= 9616 - 1678	= 7938 +69	= 8007 +5
17.6802	+7340	-1367	+49	14.48.22

Tables $a = +1.5$ $e = -3.3$ $a-e = +3.8$ $b+d = -.5$
 $lks = -997.8$ $= -503.4$ $= +5.6$ $= -8.2$
 $0-e = 498.3$ -500.1 -3.7

Cape 1681 - $\log 8.5^\circ$

12 21 9.87

12 21 9.87

+ 99.90

12 21 59.27

12 19 11.37

99.71

12 15 00.78

12 15 06.5

- 5.22

- 5.22

0.71767 h

9.99526

9.22017 h

- 0.1660

- 1

21.8339

21.9370

- 3969

- 6.96 39.9

- 6.96 39.9

- 5.19.3

- 6.51 59.2

- 8 21 31.59

- 5 22.02

- 8 26 53.6

- 6 59 98

- 1 27 05.6

- 5226.7

3.71823 h

1.09938 h

9.1719

899.03

9.6656

- 11.2091

0000

6.7959

73591

+ 5632

10746		Plate Constants				7	
λ	γ	λ	δ				
15.96 92	17.98 29	12 12	0 2.65	7	0 3	59.2	
21.93 70	7.35 91						
28.39 79	19.25 29	12 18	50.25	6	50	00.1	
95.31 16	36.73 98	30	52.96	13	53	59.3	
22.65 58	18.36 79	12 15	26.95	6	56	57.1	
22	18		-20.31		-2	51.2	
-6558	-3679	12 15	6.19	-6	59	98.3	
315	966.5						
-20.31	-171.21	Meyer's					
		Center					
19.98 72	7.93 63	A = 12 15 06					
23.29 35	29.68 60	D = -6 59 98					

$$\begin{array}{rclcl}
 x-3 & +500x & & +63.94 & -2.17x & -7217 \\
 1898 + 7982 = & 16139 & +1108 = & 7292 & -35 = & +7207 & -10 \\
 3195 + 9999 = & 6779 & +971 = & 7270 & -93 = & 7227 & +10 \\
 5937 + 11697 = & 5713 & +1565 = & 7278 & -51 = & 7227 & +10 \\
 -126 + 19179 = & 6098 & +1221 = & 7269 & -61 = & 7208 & -9 \\
 23.0869 + 11.593 & & +931 & & -50 & 23.6071 &
 \end{array}$$

$$\begin{array}{rclcl}
 -4 & +500y & & -59.2x & +3.57y & -8002 \\
 150 + 8791 = & 8891 & -995 = & 7996 & +59 = & 8005 & +3 \\
 -939 + 3718 = & 9157 & -1183 = & 7978 & +25 = & 7999 & -3 \\
 099 + 12393 = & 9299 & -1379 = & 7915 & +83 = & 7998 & -9 \\
 10 + 9626 = & 9616 & -1678 = & 7938 & +69 = & 8007 & +5 \\
 19.6802 + 7390 & & -1367 & & +99 & 19.48.22 &
 \end{array}$$

Tables

$$\begin{array}{rclcl}
 a = +1.5 & e = -3.3 & a-c = +3.8 & b+d = & -1.5 \\
 & = -997.8 & = -503.9 & = +5.6 & = -9.2
 \end{array}$$

Cape 1681 - m 98.5

12 21 9.87

12 21 9.87

+ 49,90

12 21 59.27

Cape No 1668 from
Bass's Elements.

12 18 11.37

49.81

12 13 80.78

12 15 06.

- 5.22

- 5.22

0.71767 h

9.99526 "

9.22017 h

- 0.1660

- 1

21.8339

21.7370

- 3969

- 6 46 37.9

- 6 46 37.9

- 5 19.3

- 6 51 59.2

- 8 21 31.57

- 5 22.02

- 8 26 53.6

- 6 59 48

- 1 27 05.6

- 5.226.7

3.71823 h

1.04938 h

9.1719

84703

4.6656

- 11,20 91

0000

6.7959

7.3591

+ 5632

Standard Coordinates												5-
Cape No	1662	-	Mg 8.3	Cape No	1668	-	Mg 7.0	Cape No	1679	-	Mg 7.1	
C	12	11	13.33	12	19	11.35	12	18	0.89			
L			13.90	(PM)		11.35			0.91			
E			13.35			11.37			0.87			
Mean	12	11	13.36	12	19	11.35	12	18	0.89			
Free			+ 49.29			+ 49.63			49.36			
X	12	12	02.65	12	13	00.98	12	18	50.23			
A	12	15	06.	12	15	06.	12	15	06			
x-A		-3	03.35		-	5.02		+3	47.25			
Σ(x-A)			-183.34			-5.02			+228.24			
log "	2.26326	n		0.69917			2.35072					
cos	9.99669	v		9.99526			9.99690					
70	0.76719	n		9.20187			0.85486					
70	-5.850.5			-0.759.0			+7.159.1					
71	-5			-1			+9					
7	16.1490			218408			291600					
X	15.9642			214370			28.3477					
X-3	-1848			-4038			-8126					
C	-6	5.8	33.7	-8	21	31.2	-6	47	40.6	no pm by 49		
L			37.0			31.9			40.6			
E			37.0			32.1			40.1			
Mean	-6	5.8	33.9	-8	21	31.7	-6	47	40.7			
Free		-5	20.3		-5	20.3		-5	19.7			
S	-7	03	54.2	-8	26	52.0	-6	50	00.1			
D	-6	5.9	48	-6	5.9	48	-6	5.9	48			
S-D		-4	06.2	-1	27	02.0		+9	47.9			
tand-D			-246.2			-5225.1			+587.9			
log "	2.39129	n		3.71810	n		2.76930					
70	9.72244	n		1.04925	n		0.10045					
logtand	9.0933	n		9.1719	n		9.0786					
70	153444			84833			1.7694					
71	76811	n		46286			78417					
70	-0.5278			-1.12008			+1.2602					
71	-0.0048			-0.0000			-0.0069					
7	17.4677			6.7992			19.2533					
7	17.4827			7.3591			19.2527					
7-n	+150			+5599			-10					

0.9.70-29 Aug 7.5

Page No 1070-1071

C	12	13	23.58	12	13	15.68
L						15.76
E						15.66
Mean	12	13	23.58	12	13	16.70
Prece			99.56			99.31
A	12	17	12.99	12	16	0.501
A	12	15	0.6	12	15	0.6
A-A			-53.06			+59.01
Sum(A-A)			-53.06			+59.01
Log	1.72	977	n	1.77	093	
Log	9.99	667		9.99	757	
Go	0.22	868	n	0.27	571	
Go	-1.69	31		+1.88	67	
T		-2			+2	
T	20.30	67		23.88	69	
X	19.98	72		23.29	35	
X-T	-	3195		-	3934	

C	-8	20	98.1	-6	00	6.6
L						6.5
E						7.2
Mean	-8	20	98.1	-6	0	6.8
Prece	-5	20.2		-5	20.0	
A	-8	26	08.3	-6	05	26.8
D	-6	59	98.0	-6	59	98.0
A-D	-1	26	20.3	+59	21.2	
Sum(A-D)			-51.81.8			+3261.5
Log	3.71	495	n	3.51	391	
Go	0.04	560	n	0.89	56	
Log	9.09	98	n	9.02	82	n
Go	0.95	77		0.55	17	
h	6.60	52	n	6.63	30	n
h	-11.10	72		+6.99	13	
h	-	0009		-	0007	
h	16.89	29		29.99	09	
h	7.93	63		29.68	60	
h-h	+5.93	39		-	30.77	

Standard Coordinates										5	
Cape No	1662	-Mag	8.3	Cape No	1665	-Mag	7.0	Cape No	1679	-Mag	7.1
C	12	11	13.33	12	19	11.35	12	18	0.89		
L			13.90	PM		11.35			0.91		
E			13.35			11.39			0.87		
Mean	12	11	13.36	12	19	11.35	12	18	0.89		
Free			+ 99.29			+ 99.63			99.36		
X	12	12	02.65	12	15	00.98	12	18	50.23		
A	12	15	06.	12	15	06.	12	15	06		
X-A			- 3 03.35			- 6.98			+ 3 99.25		
m(1-A)			- 183.39			- 5.88			+ 228.29		
log	2.26326	n		0.69918			2.35072				
cosd	999669	n		999526			999690				
Tu	0.76719	n		9.20168	n		0.85986				
Tu	-5.8505			-0.1598			+71591				
Tu	-5			-1			+9				
Tu	16.1990			218908			291600				
X	159692			219370			283979				
X-3	-1898			-9038			-8126				
C	-6	58	33.7	-8	21	31.2	-6	99	90.6	19	
L			39.0			31.9			90.6		
E			39.0			32.1			90.1		
Mean	-6	58	33.9	-8	21	31.7	-6	99	90.7		
Free			-5 20.3			-5 20.3			-5 19.7		
D	-7	03	59.2	-8	26	52.0	-6	50	00.1		
D	-6	59	98	-6	59	98	-6	59	98		
S-D			-9 06.2	-1	27	09.0			+9 97.9		
tan S-D			-296.2			-5225.8			+587.9		
log	2.39129	n		3.71810	n		2.76930				
Tu	9.72299	n		1.09925	n		0.10095				
logand	90933	n		9.1719	n		9.0786				
Tu	153799			88033			1.7097				
Tu	76811	n		96286			7.4917				
Tu	-0.5278			-112008			+1260.2				
Tu	-0.0098			-0.000			-0.0069				
Tu	17.9679			6.7992			192533				
Tu	17.9827			73591			192527				
Tu-n	+150			+5599			-10				

Q. 9.4529 - Mg 7.5

Cape No 1670 - Mg 9.0

C	12	13	23.58	12	15	15.68
L						15.76
C						15.66
Mean	12	13	23.58	12	15	15.70
Proc			99.36			99.31
α	12	17	12.97	12	16	05.01
A	12	15	06.	12	15	06.
d-A			- 53.06		+ 0	59.01
Sum(d-A)			- 53.06			+ 59.01
log "	1.72	977	n	1.77	093	
cos	9.99	667		9.99	757	
Σ	0.22	868	n	0.27	571	
Σ	-1.69	31		+1.88	67	
Σ		-2		+2		
Σ	20.30	67		23.88	69	
X	19.98	72		23.29	35	
X- Σ	-	3195		-	5934	

C	-8	20	78.1	-6	00	6.6
L						6.5
C						7.2
Mean	-8	20	78.1	-6	0	6.8
Proc	-5	20.2		-5	20.0	
δ	-8	26	08.3	-6	06	26.8
D	-6	59	78.0	-6	59	78.0
S-D	-1	26	20.3	+5	7	21.2
tan(D-D)	-51.8	1.7		+32	61.5	
log "	3.71	475	n	3.31	391	
Σ	1.04	560	n	0.84	56	
log tan	9.09	44	n	9.02	82	n
Σ	0.45	77		0.56	17	
Σ	6.60	52	n	6.63	30	n
Σ	-11.1	072		+6.99	13	
Σ	-	0007		-	0007	
Σ	16.89	24		27.99	09	
Σ	7.43	63		24.68	60	
Σ	+5.43	39		-	3079	

10746	Moon's		Center				6.
X	X - X ₀	ΔX	(X - X ₀) ²	X - X ₀ + (Y - Y ₀) ²	Δ - C		
1 22.0867	-1.0033	0	0.0066	3.8310	+ 398		
2 22.0000	-1.0900	0	1.1881	3.81.12"	+ 200		
3 21.2670	-1.8230	0	3.3233	3.7860	- 52		
4 21.1922	-1.9478	0	3.7939	3.7939	+ 27		
5 21.6553	-1.7377	0	2.0589	3.8021	+ 109		
6 22.0000	-1.0900	0	1.1881	3.8112	+ 200		
7 23.0800	-0.0000	0	0.0000	3.8044	+ 132		
8 23.5616	+0.7716	0	0.2224	3.7998	+ 86		

Y	Y - Y ₀	ΔY	(Y - Y ₀) ²		3.7912		
1 13.0000	-1.6809	6	28.297		212	211	
2 13.0607	-1.6193	6	2.6231		214		
3 14.0000	-0.6800	2	0.4627		249	250	
4 14.6800	0.0000	0	0.0000		270		
5 16.0000	+1.3200	5	1.7937		313		
6 16.2993	+1.6193	6	2.6231		326		
7 16.6298	+1.9498	7	3.8044		360		
8 16.5707	+1.8907	7	3.5774		14	162°	

$$X = 22 \quad Y = 13.0607$$

$$16.2993$$

$$29.3600$$

$$-Y_0 \quad 14.6800$$

$$Y_{max} \quad 16.6298$$

$$R = 1.9498$$

$$X_{min} \quad 21.1422$$

$$X_0 = 23.0900$$

$$1.9471$$

$$\begin{cases} X_0 = 23.0900 \\ Y_0 = 14.6800 \end{cases}$$

$$A = 0$$

$$B = 3.6$$

1
2
3
4
5
6
7
81
2
3
4
5
6
7
8

10796	x	$x - x_0$	Δx	$(x - x_0)^2$	$x - x_0 / (y - y_0)^2$	$y - c$
1	22,0867	-1,0033	0	1,0066	3,8310	+398
2	22,0000	-1,0900	0	1,1881	3,8112	+200
3	21,2670	-1,8230	0	3,3233	3,7860	-52
4	21,1922	-1,9978	0	3,9939	3,7939	+27
5	21,6553	-1,9397	0	2,0589	3,8021	+109
6	22,0000	-1,0900	0	1,1881	3,8112	+200
7	23,0800	+0,0000	0	0,0000	3,8099	+132
8	23,5616	+0,7716	0	0,2229	3,7998	+86

y	$y - y_0$	Δy	$(y - y_0)^2$	
1	13,0500	-1,6809	6,2829	212
2	13,0607	-1,6193	6,2623	219
3	19,0000	+0,6800	2,0962	299
4	19,6800	0,0000	0,0000	270
5	16,0000	+1,3200	5,1793	313
6	16,2993	+1,6193	6,2623	326
7	16,6298	+1,9998	7,3809	360
8	16,5707	+1,8907	7,3571	19

$$x = 22 \quad y = 13,0607$$

$$16,2993$$

$$29,3600$$

$$y_0 = 19,6800$$

$$y_{max} = 16,6298$$

$$R = 19,998$$

$$x_{min} = 21,1922$$

$$x_0 = 23,0900$$

$$\begin{cases} x_0 = 23,0900 \\ y_0 = 19,6800 \end{cases}$$

Moons
center

A. 0

D. 3.6

Formation of Normals

1	+ 1.68	- 398.0	- 665.0
2	+ 1.76	- 218.0	- 327.0
3	+ 1.27	+ 97.5	+ 355
4	0.0	- 52.5	00
5	- 1.89	- 156.0	+ 147.0
6	- 1.76	- 218.0	+ 327.0
7	- 0.0	00	+ 256.0
8	+ 0.89	+ 40.5	+ 162.5
	+ 5.57	+ 135.0	+ 922.0
	- 3.65	- 1072.5	- 989.0
	+ 1.92	- 907.5	- 67.0

- 16

	a	b	c
a	+ 10	- 10	+ 5
b	- 3	- 11	+ 5
c	- 17	- 18	+ 3
	(- 16)	- 19	0
		- 17	- 4
		- 11	- 5
		- 0	- 6
		+ 5	- 6
			- 17

.150

- 6° 43'

$$+ 1.92 + 17.66 = + 2.80 \Delta$$

$$+ 5 + 0.29 = - 1.19 \Delta$$

$$+ 17.95 = + 3.99 \Delta$$

$$+ 12.78 = - 7.91 - .73 = - 8.37 \Delta$$

107 76

Conditional Equations

0-c Corr

1	-1.00	-1.68	= +398	+71	-76	= +76	+122	+101
2	-1.09	-1.62	= +200	+78	-6	= +84	+116	+94
3	-1.82	-0.68	= -52	+136	+3	= +139	-191	-222
4	-1.95	0.00	= +27	+170	0	= +170	-113	-148
5	-1.93	+1.32	= +109	+103	+5	= +108	+1	-33
6	-1.09	+1.62	= +200	+78	+6	= +84	+116	+84
7	-0.00	+1.95	= +132	+0	+8	= +8	+127	+102
8	+0.47	+1.89	= +86	+39	+8	= -26	+112	+95

+591 - 307

Average 1.12

$$+12.78 + 1.92 = -907.5 - 7.91 \Delta$$

$$+1.92 + 17.66 = -67.0 + 280 \Delta$$

$$+ [] + .29 = -136.0$$

$$+ 0.22 \Delta$$

$$+ 17.37 = + 269.0$$

$$b = + 7.0$$

$$+12.78 = -907.5 - 7.7 \Delta = -915.2$$

$$a = -71.7$$

$$- 0.65 \Delta$$

Arc Measured 162°

$$\frac{P}{h} .21$$

$$\frac{\Sigma v}{h} = +35.9$$

$$\text{For } 7 \text{ } R 1.95$$

$$\frac{35.9}{20} = +170.0$$

$$\Delta R = +2.1$$

$$-2RC = -0.78$$

$$\text{Corr} + 0.2$$

$$\Delta b = +0.17$$

$$\Delta \delta = +0.1$$

$$\Delta R = +1.9$$

$$\Delta a = -0.57$$

$$\Delta \eta = -0.02$$

107.76

Conditional Equations

7

							O-C
1	- 1.00	- 1.68	= +398	+71	- 6	= +76	+122
2	- 1.09	- 1.62	= +200	+78	- 4	= +89	+116
3	- 1.82	- 0.68	= -52	+136	- 3	= +139	-191
4	- 1.95	0.00	= +27	+170	0	= +170	-113
5	- 1.93	+1.32	= +109	+103	+ 5	= +108	+ 1
6	- 1.09	+1.62	= +200	+78	+ 6	= +89	+116
7	- 0.00	+1.95	= +132	+ 0	+ 8	= +8	+129
8	+0.97	+1.89	= +86	-39	+ 8	= -26	+112
							+591 - 309
							Average 892

$$+12.78 + 1.92 = +907.5$$

$$+1.92 + 17.66 = -67.0$$

$$+L \quad] \quad + \quad .29 = +136.0$$

$$+17.37 = +369.0$$

$$b = +19.8$$

$$+12.78 = +907.5 + 72.5 = +911.52$$

$$a = +71.7$$

Arc Measured 162°

$$\frac{P}{h} \quad .26$$

$$\frac{\Sigma v}{h} = +35.9$$

$$\frac{35.9}{20} = +179.0$$

$$\Delta P = +2.6$$

10736

Mean's Mean Position.

8

$$\begin{aligned} X_0 &= 23.0900'' \\ &\quad -36'' \\ &= 23.0864'' \end{aligned}$$

$$\begin{aligned} Y_0 &= 17.6800'' \\ &\quad +2'' \\ &= 17.6802'' \end{aligned}$$

From Plate Constants

$$X_0 = 23.6071''$$

$$Y_0 = 17.9822''$$

$$\xi = +1.6071''$$

$$\eta = -3.5178''$$

$$\log \pi = 0.20605''$$

$$\log \tan \delta = 9.1135''$$

$$\cos \delta = 9.99632''$$

$$\xi = 0.4121''$$

$$8.50727''$$

$$7.0537''$$

$$1.70298''$$

$$6.5790''$$

 $\alpha - A$

$$+50.91''$$

$$\eta_1 = -0.0009''$$

$$A = 12 \quad 15 \quad 06''$$

$$\log h = 0.59622''$$

$$7.33115''$$

$$\alpha_0 = 12 \quad 15 \quad 56.41''$$

$$3.21507'' - 1640.9''$$

1620

Red

$$+2.73''$$

 $\delta - D$

$$-27 \quad 20.9''$$

$$\alpha' = 12 \quad 15 \quad 59.14''$$

$$D = -6 \quad 59 \quad 48''$$

$$S_0 = -7 \quad 27 \quad 08.9''$$

Red

$$-19.7''$$

$$S' = -7 \quad 27 \quad 28.6''$$

10796

Moon's Mean Position.

8

$$\begin{aligned} \lambda_0 &= 23.0900'' \\ &\quad -36'' \\ &= 23.0864'' \end{aligned}$$

$$\begin{aligned} \gamma_0 &= 17.6800'' \\ &\quad +5'' \\ &= 17.6802'' \end{aligned}$$

From Plate Constants

$$\lambda_0 = 23.6071''$$

$$\gamma_0 = 17.9822''$$

$$\xi = +1.6071''$$

$$\eta = -3.5178''$$

$$\log \xi, 0.20605''$$

$$\log \eta \text{ and } 9.1135''$$

$$\cos \delta, 9.99632''$$

$$\xi = 0.4121''$$

$$8.50729$$

$$7.0539$$

$$1.70299''$$

$$6.5790''$$

 $\alpha - A$

$$+50.91''$$

$$\eta_1 = -0.0009''$$

$$A \quad 12 \quad 15 \quad 06.4''$$

$$\log h_0 0.54622''$$

$$7.33113''$$

$$\alpha_0 \quad 12 \quad 15 \quad 56.91''$$

$$3.21507'' - 1690.9''$$

Red

$$+2.73''$$

 $\delta - D$

$$-27 \quad 20.9''$$

$$\alpha' \quad 12 \quad 15 \quad 59.59''$$

$$D \quad -6 \quad 59 \quad 98''$$

$$\delta_0 \quad -7 \quad 27 \quad 08.9''$$

Red

$$-19.7''$$

$$\delta' \quad -7 \quad 27 \quad 28.6''$$

$$\begin{array}{r}
 12 \quad 05 \quad 50.77 \\
 \underline{78.13} \\
 + 2.67 \\
 \hline
 \end{array}$$

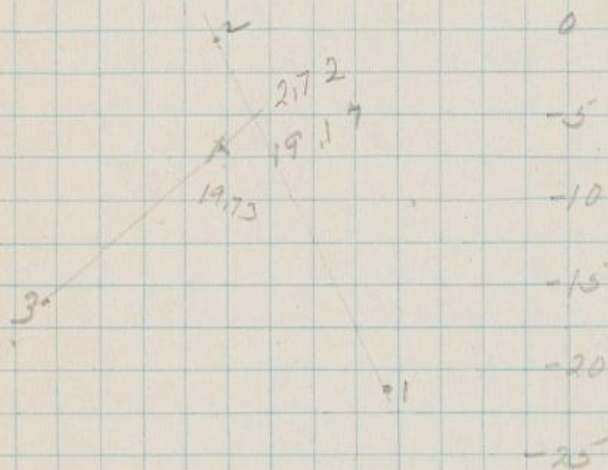
$$\begin{array}{r}
 -22 \quad 09 \quad 32.82 \\
 \underline{9.56} \\
 -23.26
 \end{array}$$

$$\begin{array}{r}
 12 \quad 15 \quad 39.25 \\
 \underline{36.50} \\
 + 2.75 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 -0 \quad 12 \quad 18.12 \\
 \underline{0.28} \\
 -17.84
 \end{array}$$

$$\begin{array}{r}
 12 \quad 25 \quad 33.73 \\
 \underline{30.96} \\
 + 2.77 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 -16 \quad 2 \quad 77.37 \\
 \underline{52.71} \\
 -24.66
 \end{array}$$



25 20 15 10 5 12

10776 Reduction to Apparent Place

9

$$H + \alpha \quad 2 \quad 39.7 = 38^\circ 40.5 \quad \delta \quad -7 \quad 27 \quad 8.9$$

$$H \quad 14 \quad 18.8$$

$$\alpha \quad 12 \quad 15.9$$

$$G \quad 22 \quad 33.6$$

$$G + \alpha \quad 10 \quad 49.5 = 162^\circ 22.5$$

$$\log \cos \delta \quad 9.9963$$

$$L \quad 0.6908 n$$

$$(L) \quad 0.6871 n$$

$$\log \cos(G + \alpha) \quad 9.9738 n$$

$$g \quad 1.1291$$

$$\sin \delta \quad 9.9811 n$$

$$\tan \delta \quad 9.1166 n$$

$$8.8239$$

$$\log \sin \delta \quad 9.1129 n$$

$$\cos(H + \alpha) \quad 9.8925$$

$$L \quad 1.2983$$

$$\sin(H + \alpha) \quad 9.7958$$

$$\sec \delta \quad 0.0037$$

$$8.8239$$

$$\log g' \quad 1.1082 n$$

$$g \quad 8.5507 n$$

$$\log L' \quad 0.3037 n$$

$$L \quad 9.9217$$

$$f + 1.931$$

$$g + 0.036$$

$$L + 0.835$$

$$+ 2.730$$

$$g' + 12.83$$

$$L' - 2.012$$

$$L' - 9.984$$

$$-19.779$$

10796 Reduction to Apparent Place

9

$$H+x \quad 2 \quad 39.7 = 38^\circ 40.5 \quad \delta \quad -7 \quad 27 \quad 1.9$$

$$H \quad 17 \quad 18.8$$

$$x \quad 12 \quad 15.9$$

$$L \quad 22 \quad 33.6$$

$$G+x \quad 10 \quad 99.5 = 162^\circ 22.5^\circ$$

$$-7 \quad 31.5$$

$$\log \cos \delta \quad 9.9963$$

$$+ \quad 0.6908 \text{ n}$$

$$(L) \quad 0.6871 \text{ n}$$

$$\log \cos (G+x) \quad 9.9791 \text{ n}$$

$$+ \quad 1.1291$$

$$\sin \dots \quad 9.9811 \text{ n}$$

$$\tan \delta \quad 9.1166 \text{ n}$$

$$8.8239$$

$$\log \sin \delta \quad 9.1829 \text{ n}$$

$$\cos (H+x) \quad 9.8925$$

$$+ \quad 1.2983$$

$$\sin (H+x) \quad 9.7958$$

$$\sec \delta \quad 0.0037$$

$$8.8239$$

$$\log g' \quad 4.6082 \text{ n}$$

$$+ \quad 8.5507 \text{ n}$$

$$\log L' \quad 0.3037 \text{ n}$$

$$+ \quad 9.9217$$

$$f + 1.931$$

$$+ 0.036$$

$$+ 0.835$$

$$+ 2.739$$

$$g' + 12.836$$

$$+ 2.012$$

$$+ 9.987$$

$$- 19.799$$

107.76

Lunar Parallax

10

δ' 12 15 59.18 ✓
 δ 12 23 11.1 ✓
 $\delta - \delta'$ + 7 12.0 ✓
 $=$ 10 48 0. ✓
 $\frac{1}{2}(\delta + \delta')$ 80.95 ✓
 $\frac{1}{2}(\delta - \delta')$ 1 47 19.5 ✓

π 57 37.7 ✓
 9.86913
 $\sin \delta'$ 8.49708 ✓
 $\sin \pi$ 8.22430 ✓
 0.00300 ✓
 6.59357 ✓

9.95727

0.00000

0.00021

9.95748

 $\delta - \delta'$ 1 20.90 ✓

 $=$ 0 5.39 ✓

 δ 72 12 0.0 ✓

 $\delta - 7$ 27 28.6 ✓

 $\delta - \delta$ 49 39 28.6 ✓

9.82640

8.22430 ✓

9.88206 ✓

0.17281 ✓

8.10557 ✓

 $\delta - \delta'$ 43 50.3 ✓

 $\delta - 6$ 43 38.3 ✓

 $\text{Eph} \delta - 6$ 43 31.7 ✓

 $\delta - c$ - 66 ✓

 Curv. Corr - 0.5 ✓

 $2^{\text{nd}} \text{ Order Ref.}$ + .1 ✓

 α 12 16 09.53 ✓

 $\text{Eph} \alpha$ 12 16 03.82 ✓

 $\delta - c$ + 0.71 ✓

- 0.01

 In Corr + 0.1

- 0.02

 $\delta - 6$ 43 38.1

 α 12 16 09.51

 $\delta - c$ - 6.7

 $\text{poor} + 9.69$

10796

Lunar Parallax

10

λ' 12 15 59.19"
 δ 12 23 11.1"
 $\delta - \lambda'$ + 7 12.0"
 δ 10 98 0."
 $\lambda(1-\lambda')$ 90.95"
 λ 1 97 19.5"

π 57 37.7"
 9.86913
 $\sin \delta \lambda' 899.708$
 $\sin \pi 8.22930$
 0.00300
 6.59357

9.95727

0.00000

0.00021

9.95748

 $\lambda - \lambda'$ 1 20.90"

= 0 5.39"

 λ 92 12 0.0" $\lambda - \gamma$ 27 28.6" $\lambda - \delta$ 99 39 28.6"

9.82640

8.22930

9.88206

0.17281

8.10557

 $\delta - \delta'$ 73 50.3" δ -6 93 38.3" $\delta - \delta'$ -6 93 31.7" λ 12 16 09.53" $\delta - \delta'$ 12 16 03.82"

O-C -66"

O-C +0.71"

Curvature Corr. -0.5

-0.01

2nd Order Ref. +.1

1
23
18

2
17
8

3
31
19

2
39
10

1
2
1

2
2
1

10748

Star Measures

4

11

1	d	1	d	2
	20092	20138	20388	1958202
43.2	18038	12210	14939	1304638
18.6	32	16	39	2836
	88	38	80	8988
	<u>132056</u>	<u>132079</u>	<u>185453</u>	<u>185477</u>
2	19327	19770	19832	19299
17.2	17876	11232	15158	13940
8.6	79	28	58	40
	25	70	22	90
	<u>17.1752</u>	<u>17.1460</u>	<u>84670</u>	<u>8.4678</u>
3	20348	19536	19898	19962
31.7	16842	13040	10282	19440
19.9	42	44	80	44
	98	32	799	48
	<u>31.3506</u>	<u>31.3510</u>	<u>19.9513</u>	<u>19.9481</u>
2	19592	20332	20028	9821
34.3	17142	12772	19732	23
10.04	42	74	28	9559
	84	30	32	
	<u>34.2478</u>	<u>34.2442</u>	<u>10.0298</u>	<u>10.0268</u>

Moon Measures

1	19164	19820	19960	19980
21.6	15888	13107	14970	14502
12.4	84	12	70	490
56	52	818	58	86
	<u>21.3278</u>	<u>21.3290</u>	<u>12.4989</u>	<u>12.5013</u>
2			20000	19956
21			12638	16825
12.7			32	19
			16	50
			<u>12.7369+</u>	<u>12.7367</u>

Poor image

10798

Star Measures

4

11

L	1	2	3	4
	20092	20138	20388	19582602
8.2	18038	12210	14939	1504638
8.6	32	16	39	2436
	88	38	80	8988
	132056	132079	185953	185947

19327	19770	19832	19299
17876	11232	15158	13990
79	28	58	90
25	70	22	90
<u>171952</u>	<u>171960</u>	<u>89670</u>	<u>89698</u>

20398	19336	19798	19962
16892	13090	10282	19990
92	99	80	79
98	32	799	98
<u>313506</u>	<u>313510</u>	<u>199513</u>	<u>199981</u>

19592	20332	20028	9821
17192	12772	19732	23
92	79	28	9559
89	30	32	
<u>392998</u>	<u>392992</u>	<u>100298</u>	<u>100268</u>

Moon Measures:

19169	19820	19960	19980
15882	13107	19970	19502
89	12	70	970
52	818	58	86
<u>213278</u>	<u>213290</u>	<u>124989</u>	<u>125013</u>

20000	19956
12638	16825
32	19
06	50
<u>1273691</u>	<u>127367</u>

3
20
13

8
20
19
-X

5
20
15

6
21
15

7
21
16

8
22
16
+

10748

Moon Measures

12

<u>3</u>	19876	19672	19698
20.7	12316	17236	17210
13.0	14	32	19
	72	42	72
	<u>20.7548</u>	<u>20.7592</u>	<u>20.7560</u>

<u>8</u>	19028	20510
20.3	15498	14032
17	88	34
-X	20	12
	<u>20.3532</u>	<u>20.3522</u>

<u>5</u>	19132	10420
20.6	13846	15696
15	42	702
	32	20
	<u>20.5288</u>	<u>20.5279</u>

<u>6</u>	19957	19088
21.0	13508	15522
15.7	06	39
	58	82
	<u>15.6450</u>	<u>15.6772</u>

<u>2</u>	20370	19898
22	19232	10987
16.1	27	76
	70	50
	<u>16.1172</u>	<u>16.1130</u>

<u>8</u>	20358	19880
22.3	18988	11258
16.2	82	50
+7	58	72
	<u>16.1373</u>	<u>16.1381</u>

3
20
13

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19
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12

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15

2
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16

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16
+

10748

Moon measures

12

<u>3</u>	19876	19692	19698
20.7	12316	17236	17210
13.0	19	~~32~~	19
	72	~~42~~	92
	<u>20.7548</u>	<u>20.7592</u>	<u>20.7560</u>

<u>2</u>	19028	20510
20.3	15498	19032
19	88	34
-1	20	12
	<u>20.3332</u>	<u>20.3322</u>

<u>5</u>	19132	10920
20.6	13846	12696
15	42	702
	32	20
	<u>20.5288</u>	<u>20.5279</u>

<u>6</u>		19957	19088
21.0		13508	15522
15.7		06	39
		58	82
		<u>15.6950</u>	<u>15.6992</u>

<u>2</u>		20370	19898
22		19232	10989
16.1		29	76
		70	50
		<u>16.1192</u>	<u>16.1120</u>

<u>8</u>		20358	19880
22.3		18988	11258
16.2		82	50
+7		58	72
		<u>16.1373</u>	<u>16.1381</u>

10778

Times & etc.

13

May 13 '16

Exp. to Stars	13	19	13	26
" " Moon	13	19	33.6	13 19 33.8
Clock fast		5-	50.0	
H. Sid Time	13	13	73.4	4-9 = +0 ^h 5-6 ^m
A. Long	9	99	31.05	
g. Sid J.	17	58	14.75	
Sid J. M.M.	3	23	38.03	
Internal	17	37	36.72	
Reduction		2	23.28	
g. M. J.	17	32	13.77	

From Naut Alman.		P.A.			Rec.	
Moon 17	12	16	70.77	- 6	97	55.7
Motion in 1 ^m			2.0327			17.521
" " 32.2270		1	5.50		7	97.3
Tabular Place	12	17	76.27	- 6	55	72.7

Moon's Age 12 days

Parallax	57	39.3
Semid.	15	94.1
R.		944.1
Aug.		10.1
Err. (9)		-0.6
R.		953.6
R.		2.0972
a.R.		- 970
(1+9)R		1.9972
R.		3.7916

939 = 9.9

- 498.3[✓]
 + 24
 - 474.3[✓]

10778

Times & etc

13

May 13 '16

Exp. to Stars	13	19	13	26
to Moon	13	19	33.6	13 19 33.8
Clock fast		5	50.0	
H. Sid Time	13	13	73.9	4-2 = +0 ^h 56 ^m
H. Long	9	99	31.05	
g. Sid J	17	58	19.75	
Sid J M. M.	3	23	38.03	
Antenna	17	27	36.72	
Reduction		2	13.28	
g M. J.	17	32	13.99	

From Hunt Alm.	R. A.		Dec.	
Moon 19	12	16	90.77	- 6 97 55.7
Motion in 1 ^m			2.0327	11.321
" 32.2270	1		5.50	7 77.3
Antenna Place	12	17	96.29	- 6 55 42.7

Micros Age 12 days

939: 9.9

Parallax	57	39.3
Signed	10	99.1
R.		999.1
Aug		10.1
Err (7)		-0.6
R.		953.6
R		2.0992
alt		- 970
(1.14) R		1.9772
R		3.7916

- 498.3
+ 29
- 979.3

10748	Plate	Center	α	δ	19
$\times$	γ				
-13.2065	-18.5750	12	12	02.6	-7 03 57.2
17.1956	8.4659				
-31.3508	-19.9997	21	59.3	-6 51 57.2	
34.2495	10.0283				

2) 77.5573	38.7997	27	33	619	-13 57 108.7
22.2786	19.2473	12	17	0.9	-6 57 57.2
22	18			-8.6	-9 43
-2786	-1.247	12	16	52.3	-7 07 37.2
<u>315</u>	<u>466.3</u>				
-8.67	-9 43				

Plate Center A 12 16 52
D -7 07 37

$\gamma - \gamma$	+500 γ	-36.1 γ	-1.7 γ	-10311
+7709 + 6603	= +1012	-669	= +10373	-22 = +10321 + 10
+2069 + 8573	= 10637	-305	= 332	-29 = 03 - 8
-7600 + 15675	= 11075	-720	= 355	-53 = 02 - 9
-6382 + 17122	= 10770	-362	= 378	-58 = 20 + 10
22,2979 + 11.199	= 512		-38	22.3262

$\gamma - \gamma$	+500 γ	+36.7 γ	+3.2 γ	-10601
+793 + 9272	= +10065	+480	= +10545	+59 = +10609 + 3
+5718 + 9233	= 9977	+627	= 571	+27 = 10598 - 3
-582 + 9975	= 9393	+1191	= 537	+69 = 10598 - 3
+9313 + 5017	= 9327	+1296	= 573	+32 = 10605 + 7
17,1898 + 7095	+812		+45	13.9249

Tables $a = +0.5$ $e = -3.5$ $a - e = +7.0$ $b + d = -2$
 Obs -498.3 -503.2 $= +7.9$ $= -0.3$
 $a - e$ -498.8 -499.7 $+1.7$

10748

Plate Center

19

α	δ	α	δ	α	δ	α	δ
13.20 65	18.59 50	12	12	02.6	-7 03	59.2	
17.19 56	8.46 59						
31.35 08	19.99 97	21	59.3	-6 51	59.2		
34.29 95	10.02 83						
277 55.73	3899 97	27	33	6.19	-13 57	108.7	
22.2786	19.2773	12	17	6.9	-6 57	59.2	
22	18			-8.6	-9	93	
7.2786	-1.297	12	16	52.3	-7 07	37.2	
315	466.2						
-8.67	-9.43						

Plate
Center

A	12	16	52
D	-7	07	37

X-3	+5000	-36.17	-1.77	-10311
+7709	+6603	=+11012	-669	=+10373
72069	+8373	=10637	-305	=332
-7600	+15675	=11075	-720	=305
-6382	+17122	=10770	-362	=378
22,2979	+11199	-512	-38	22.3262

7-4	+5004	+36.77	+3.27	-10601
+793	+9272	=+10065	+980	=+10595
+5717	+9233	=9997	+629	=571
-582	+9975	=9393	+1191	=539
+9313	+5019	=9327	+1296	=573
19.1898	+7095	+812	+95	13.9249

Tables $a = +0.5$ $e = -3.5$ $a \cdot e = +7.0$ $b+d = -2.$
 lbs -998.3 -503.2 $= +7.9$ $= -0.3$

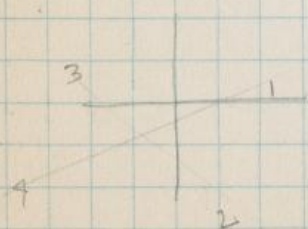
Curv. Corr

ξ	η	$\Delta \xi$	-3.73	$+1.04$	-7
-9.23	$+0.48$	-19	$+34$	$+15$	$+1$
-5.06	-10.10	-16	$+19$	$+3$	-10
$+9.81$	$+2.02$	$+26$	-36	-10	$+2$
$+12.88$	-8.38	$+71$	-48	$+23$	-5

$$M = +0.33 - 1 - 9 = -9 = -0.03$$

$\Delta \eta$	-4.34	$+1.13$	-7
$+13$	-2	$+11$	$+10$
-31	$+43$	$+12$	-6
$+35$	-9	-4	$+10$
-98	$+36$	-12	$+19$

$$M = -9.08 + 18 - 0 = +19 = +0.7$$



Standard
Cape No 1662 - Mg 8.3Coordinates
A. G. No 75-29 - Mg 7.5C
L
E
Mean
Prec

α	12	12	02.65 ^v	12	19	12.97 ^v
A	12	16	52	12	16	52
$\alpha-A$	-	7	79.35 ^v	-	2	39.06 ^v
Sum($\alpha-A$)	-	289	.33 ^v	-	159	.06 ^v
log II	2	761	39 ^v	2	201	56 ^v
Mod	9	996	69 ^v	9	995	28 ^v
γ_0	0	965	32 ^v	0	704	08 ^v
γ_0	-	9	232.5 ^v	-	5	059.2 ^v
γ_1	-	1	9 ^v	-	1	6 ^v
γ	12	763	6	16	939	2
χ	13	206	5 ^v	17	175	6 ^v
$\chi-\gamma$	+	7	709 ^v	+	2	069 ^v

e
I
E
Mean
Prec

δ	- 7	03	59.2 ^v	- 08	26	08.3 ^v
D	- 7	07	37.0	- 7	07	37.0 ^v
$\delta-D$	+	3	72.8 ^v	- 1	-18	31.3 ^v
tan($\delta-D$)	+	2	22.8 ^v	-	7	12.1 ^v
log II	2	37	792 ^v	3	67	322 ^v
Mod	9	67	907 ^v	1	00	437 ^v
log tan	9	09	32 ^v	9	17	11 ^v
γ_0	1	9	307 ^v	1	4	082 ^v
γ_1	8	0	773 ^v	7	6	327 ^v
η_0	+	0	477.6 ^v	-	10	101.2 ^v
η_1	-	0	011.9 ^v	-	0	007.3 ^v
η	2	8	7657 ^v	7	8	975 ^v
η	1	8	5759 ^v	8	7	659 ^v
$\eta-\eta$	+	7	93 ^v	+	5	718 ^v

Standard
Cape No 1662 - mag 8.3Coordinates
A.G. No 7529 - mag 7.5

C						
L						
E						
Mean						
Prec						
α	12	12	02.65"	12	19	12.99"
A	12	16	52	12	16	52
δ -A	-	9	79.35"	-	2	39.06"
$\tan(\delta$ -A)	-	289	33"	-	159	06"
$\log \mu$	2.76	139	"	2.20	156	"
$\log \mu$	9.99	669	"	9.99	528	"
$\log \mu$	0.96	532	"	0.70	408	"
$\log \mu$	-9.23	25"		-5.05	92"	
$\log \mu$	-	19"		-	16"	
$\log \mu$	12.76	56		16.93	92	
$\log \mu$	13.20	65"		17.17	56"	
$\log \mu$	+	7709"		+	2069"	

C						
L						
E						
Mean						
Prec						
δ	-7	03	59.2"	-08	26	08.3"
D	-7	07	37.0	-7	07	37.0
δ -D	+	372.8		-	118	31.3"
$\tan(\delta$ -D)	+	222.8		-	9712.1	
$\log \mu$	2.39	792	"	3.67	322	"
$\log \mu$	9.67	907	"	1.00	437	"
$\log \mu$	9.09	322	"	9.17	11	"
$\log \mu$	1.93	07	"	1.40	82	"
$\log \mu$	8.07	773	"	7.63	284	"
$\log \mu$	+0.97	776"		-10.10	12"	
$\log \mu$	-0.01	119"		-0.00	93"	
$\log \mu$	1.87	657"		7.89	975"	
$\log \mu$	1.85	759"		8.96	59"	
$\log \mu$	+	792"		+	5719"	

Standard Coordinates

Cape No 1681 - Mg 8.5

Cape No 1687 - Mg 6.7

C				12	22	47.92	
L						47.52	} used
E						47.50	
Mean				12	22	47.51	9.1
Pre						49.25	49.13
A	12	21	59.27	12	23	36.67	used E.
A	12	16	52	12	16	32	
d-A		+ 5	07.27		+ 6	77.67	
Sum(d-A)			+ 307.27			+ 407.58	
Log n	2.98	748		2.60	701		
Log d	9.99	687		9.99	552		
Log	0.99	159		1.10	977		
30							
30	+ 9.80	82		+ 12.87	56		
31		+ 26			+ 71		
3	31.8	108		34.8	827		
X	31.35	08		34.24	95		
X-3	- 7.6	00		- 6.3	82		
E				- 8	07	27.9	
L						27.9	
E						27.8	
Mean				- 8	07	27.9	
Pre					- 5	19.1	
S	- 6	51	57.2	- 8	12	77.0	
D	- 7	07	37	- 7	07	37	
S-D		+ 15	72.8	- 1	05	07.0	
Sum S-D			+ 972.8			- 3907.5	
Log n	2.97	792		3.59	189		
Log	0.30	557		0.92	304		
Log n	9.08	06		9.15	93		
Log 2	1.98	32		2.21	95		
Log	8.11	72		8.73	22		
Log							
Log	+ 2.02	10		- 8.37	60		
Log	- 0.01	31		- 0.02	70		
Log	2.00	079		9.59	70		
Log	1.99	897		10.02	83		
Log	- 0.58	2		+ 7.31	13		

Standard Coordinates

Cape No 1681 - Aug 8.5

Cape No 1687 - Aug 6.9

C				12	22	97.92	
I						97.52	
C						97.50	med
Mean				12	22	97.51	med
Pre						99.25	99.13
A	12	21	59.27	12	23	36.67	med E.
H	12	16	52	12	16	52	
I-A		+ 5	07.27		+ 6	79.67	
Sum(I-A)			+ 307.29			+ 709.58	
Log	2.98	798	-	2.60	701	-	
Log	9.99	687	-	9.99	552	-	
30	0.99	159	-	1.10	977	-	
30	+ 9.80	82	-	+ 12.87	56	-	
31		+ 26	-		+ 71	-	
3	31.8	168	-	39.8	827	-	
X	31.35	08	-	39.29	95	-	
X-3	- 76	00	-	- 63	82	-	
C				- 8	07	29.9	
I						29.9	
E						29.8	
Mean				- 8	07	29.9	
Pre					- 5	19.1	
D	- 6	51	59.2	- 8	12	99.0	
D	- 7	07	37	- 7	07	37	
S-D		+ 15	72.8	- 1	05	07.0	
Sum S-D			+ 982.8			- 3907.5	
Log n	2.97	992	-	3.59	189	-	
40	0.30	557	-	0.92	309	-	
Log n	9.08	06	-	9.15	93	-	
Σ ²	1.98	32	-	2.21	95	-	
h ₁₀	8.11	72	-	8.93	22	-	
40	+ 2.02	10	-	- 8.37	60	-	
h ₁	- 0.01	31	-	- 0.02	70	-	
h	2.00	079	-	9.59	70	-	
4	19.99	97	-	10.02	83	-	
4-4	- 05	82	-	+ 73	13	-	

1
2
3
4
5
6
7
81
2
3
4
5
6
7
8

10748

Moon's center

17

	x	$x - x_0$	Δx	$(x - x_0)^2$	$(x - x_0)(y - y_0)$	$y - y_0$
1	21.3284	-0.9716	-3	0.9446	3.8061	+1.45
2	21.0000	-1.3000	-3	1.6908	3.8072	+1.56
3	20.7557	-1.5776	-2	2.3864	3.8059	+1.43
4	20.3527	-1.9473	0	3.7920	3.7920	+0.9
5	20.5284	-1.7717	+1	3.1375	3.7925	+0.9
6	21.0000	-1.3000	+3	1.6892	3.8039	+1.23
7	22.0000	-0.3000	+3	0.0898	3.7889	+2.7
8	22.3000	0.0000	+3	0.0000	3.7927	+1.1

	y	$y - y_0$	Δy	$(y - y_0)^2$	
1	12.5001	-1.6909	-7	2.8615	210°
2	12.7368	-1.4542	-6	2.1164	222°
3	13.0000	-1.1910	-4	1.4195	232°
4	14.1910	0.0000	0	0.0000	270°
5	15.0000	+0.8090	+3	0.6550	295° 296
6	15.6776	+1.4636	+6	2.1147	318°
7	16.1136	+1.9226	+7	3.6991	351°
8	16.1377	+1.9467	+8	3.7927	360° 150°

$$x = 21 \quad y = 12.7368$$

$$15.6776$$

$$28.3819$$

$$y_0 = 14.1910$$

$$y_{max} = 16.1377$$

$$R = 1.9470$$

$$x_{min} = 20.3527$$

$$22.2997$$

$$x_0 = 22.3000$$

$$y_0 = 14.1910$$

$$A = +1.8$$

$$B = +3.9$$

1
2
3
4
5
6
7
81
2
3
4
5
6
7
8

10748

Moon's center

17

	X	$X - X_0$	ΔX	$(X - X_0)^2$	$(X - X_0)(Y - Y_0)^2$	$O - C$
1	21,3289	-0,9716	-3	0,9496	3,8061	+145
2	21,0000	-1,3000	-3	1,6908	3,8072	+156
3	20,7559	-1,5496	-2	2,3869	3,8059	+193
4	20,3527	-1,9473	0	3,7920	3,7920	+09
5	20,5289	-1,7717	+1	3,1375	3,7925	+9
6	21,0000	-1,3000	+3	1,6892	5,8039	+123
7	22,0000	0,3000	+3	0,0898	3,7889	+27
8	22,3000	0,6000	+3	0,0000	3,7927	+11

	Y	$Y - Y_0$	ΔY	$(Y - Y_0)^2$	
1	12,5001	-1,6909	-7	2,8615	210
2	12,7368	-1,4542	-6	2,1169	222
3	13,0000	-1,1910	-4	1,4195	232
4	19,1910	0,0000	0	0,0000	270
5	15,0000	+0,8090	+3	0,6550	295
6	15,6996	+1,4936	+6	2,1197	318
7	16,1136	+1,9226	+1	3,6991	351
8	16,1377	+1,9467	+8	3,7927	360

$$X = 21 \quad Y = 12,7368$$

$$15,6996$$

$$28,3819$$

$$Y_0 = 19,1910$$

$$y_{max} = 16,1377$$

$$R = 1,9870$$

$$X_{min} = 20,3527$$

$$22,2997$$

$$X_0 = 22,3000$$

$$Y_0 = 19,1910$$

$$A = +1,8$$

$$B = +3,9$$

Formation of Normals

1	+ 1.67	- 181.0	- 275.0
2	+ 1.88	- 203.0	- 226.0
3	+ 1.83	- 220.0	- 170.0
4	0.0	- 78	0.0
5	- 1.77	- 159	+ 7.0
6	- 1.89	- 160.0	+ 17.80
7	- 0.58	+ 8.0	- 5.20
8	+ 0.0	0.0	+ 21.0
	+ 5.35	+ 8.0	+ 206.0
	- 3.91	- 77.77	- 69.36
	+ 1.77	+ 73.97	- 48.70

	a	b	c	new a-c
	+11	-5	-10	+13
a	-11	+17	-4	+77
b	+3	+17	-4	+50 +30
c	-16	+21	0	-91
	+19	+2	+3	-57
	+17	+4	+2	+97
	+3	+6	-7	-1
	+0	+6	-10	+79

105

-70

$$+1.77 + 16.66 = +1.79 \Delta$$

$$+ [] + 0.15 = -0.95 \Delta$$

$$+16.51 = +2.77 \Delta$$

$$+13.73 = -9.12 - 0.24 = -9.36 \Delta$$

10748

Conditional Equations.

18

$$\begin{array}{rcl}
 1 & -0.97 & -1.69 = +145 \\
 2 & -1.30 & -1.45 = +136 \\
 3 & -1.57 & -1.19 = +143 \\
 4 & -1.94 & 0.00 = +8 \\
 5 & -1.77 & +0.81 = +9 \\
 6 & -1.30 & +1.45 = +123 \\
 7 & -0.30 & +1.92 = -27 \\
 8 & 0.00 & +1.94 = +11
 \end{array}$$

$$\begin{array}{rcl}
 +50 & + & 42 = +92 \\
 +67 & + & 36 = +103 \\
 +80 & + & 30 = +110 \\
 +100 & & 0 = +100 \\
 +91 & - & 20 = +71 \\
 +67 & - & 36 = +31 \\
 +15 & - & 48 = -33 \\
 0 & - & 48 = -48
 \end{array}$$

+296 -158
Average 57

$$13.73 + 1.44 = -739.7 - 9.12 \Delta$$

$$+1.44 + 16.66 = -787.0 + 1.79 \Delta$$

$$+ [] + .15 = -77.4$$

+0.17 Δ

$$+16.51 = -709.6 \quad b = -27.8$$

$$13.73 = -739.7 + 35.5 = -704.2 \quad a = -51.3$$

-0.68 Δ

Arc Measured 150°

$$\frac{P}{n} \cdot 15$$

$$\frac{\sum v}{n} = +17.1$$

$$\text{In } 4 \quad R \quad 1.95$$

$$\frac{17.1}{15} = +1.14$$

$$\Delta R = +1.7$$

$$-2RC = -0.78$$

$$\text{Corr } +0.2$$

$$\Delta R = +1.2$$

$$\Delta \delta = -0''.13$$

$$\Delta \delta = -0''.1$$

$$\Delta \alpha = +0^s.53$$

$$\Delta \alpha = +0^s.02$$

10798

Conditional Equations.

18

$$\begin{array}{rcl}
 1 & -0.97 & -1.69 = +195 \\
 2 & -1.30 & -1.95 = +136 \\
 3 & -1.57 & -1.19 = +193 \\
 4 & -1.99 & 0.00 = +9 \\
 5 & -1.77 & +0.81 = +9 \\
 6 & -1.30 & +1.95 = +123 \\
 7 & -0.30 & +1.92 = -27 \\
 8 & 0.00 & +1.99 = +11
 \end{array}$$

$$\begin{array}{rcl}
 +30 & + & 92 = +92 & +53 \\
 +67 & + & 36 = +103 & +53 \\
 +20 & + & 30 = +110 & +33 \\
 +100 & & 0 = +100 & -76 \\
 +91 & - & 20 = +71 & -62 \\
 +67 & - & 36 = +31 & +92 \\
 +15 & - & 98 = -33 & +6 \\
 0 & - & 98 = -98 & +59 \\
 & & +296 & -158 \\
 & & \text{Average} & 57
 \end{array}$$

$$13.73 + 1.99 = +739.7$$

$$+1.99 + 16.66 = -787.0$$

$$+2 \quad] \quad + \quad .15 = -77.9$$

$$+16.51 = -909.6$$

$$b = -27.8$$

$$13.73 = -739.7 + 35.5 = -709.2 \quad a = -51.3$$

Arc Measured 150°

$$\frac{p}{n} \cdot 15$$

$$\frac{\sum v}{n} = +17.1$$

$$\frac{17.1}{.15} = +114$$

$$\Delta R = +1.9$$

10778

Mauris Mean Position

19

 X_0 22.3000 ✓

-26 ✓

22.2974 ✓

 Y_0 17.1910 ✓

-12 ✓

17.1898 ✓

From Plate Constants

 X 22.3262 ✓ Y 13.9279 ✓ Z +1.3262 ✓ h -4.0751 ✓ $\log z$ 9.51378 ✓ $\cos \delta$ 9.99611 ✓

8.50727

1.01013 ✓

 $\log \tan \delta$ 9.1262 z 9.0270 ✓

7.0537

5.2066 ✓

 $d-A$

+10.29 ✓

 h_1 0 ✓ A 12 16 52 ✓ $\log H_0$ 0.61017 ✓

7.33115 ✓

 Y_0 12 17 02.27 ✓3.27899 h -1901.0
186.0

Red

+2.73 ✓

 $S-D$

-31 71.0

 d' 12 17 49.7 ✓ D -7 07 37 ✓ S_0 -7 39 18.0 ✓

Red -19.7 ✓

 S' -7 39 37.7

10778

Mercury Mean Position

19

$$\begin{array}{r} \lambda_0 \quad 22.3000'' \\ \quad -26'' \\ \hline 22.2974'' \end{array}$$

$$\begin{array}{r} \gamma_0 \quad 19.1910'' \\ \quad -12'' \\ \hline 19.1898'' \end{array}$$

From Plate Constants

 $\lambda \quad 22.3262''$ $\gamma \quad 13.9299''$ $\gamma \quad +1.3262''$ $\eta \quad -9.0751''$ $\log 39.51398''$ $\log \tan \delta \quad 9.1262''$ $\cos \delta \quad 7.79616''$ $\gamma_2 \quad 9.0270''$ $8.50729''$ $\gamma_1 \quad 7.0539''$ $1.01013''$ $5.2066''$ $\lambda - A \quad +10.29''$ $\eta_1 \quad 0''$ $A \quad 12 \quad 16 \quad 52''$ $\log \mu_0 \quad 0.61019''$ $\gamma_0 \quad 12 \quad 17 \quad 02.29''$ $7.33115''$ $3.27899'' - 1901.9$ $\text{Red} \quad +2.73''$ $\delta - D \quad -31 \quad 71.9''$ $\delta_i \quad 12 \quad 19 \quad 49.7''$ $\delta \quad -7 \quad 07 \quad 37''$ $\delta_0 \quad -7 \quad 39 \quad 18.9''$ $\text{Red} \quad -19.7''$ $\delta' \quad -7 \quad 39 \quad 37.7''$

10778

Lunar Parallax

21

α' 12 17 7.97^v
 δ 13 13 73.7^v
 $\delta - \alpha'$ + 56 38.7^v
 $=$ 170 9 40.5^v
 $\frac{1}{2}(\delta - \alpha')$ 5 15.8^v
 $\frac{1}{2}$ 17 9 25.2^v

π 57 39.3^v
 9.86913
 8.22755^v
 9.38857^v
 0.00319^v
 7.78547

9.95727

0.00000^v0.01323^vtan δ 9.97050^v

δ 43 3 19.2^v

δ -7 39 37.7^v

$\delta - \delta$ 50 42 56.9^v

9.82670

8.22755^v9.88875^v0.16577^v8.10547^v

$\delta - \delta'$ 43 49.7^v

δ -6 55 48.0^v

Eph δ -6 55 42.7^v

O-C -5.3^v

Curv. Corr +0.7

2nd Order Ref. +0.1

Fin Corr -0.1

δ -6 55 48.0

O-C -5.3

α 12 17 77.02^v

Eph α 12 17 76.27^v

O-C +0.78^v

-0.03

+0.02

δ 12 17 77.07

+0.80

poor image

10778

Jumar Parallax

λ'	12	17	7.97	π	57	39.3
δ	13	13	73.7			
$\delta - \lambda'$		+ 56	38.7		9.86913	
$=$	190	9	90.5		8.22755	
$\frac{1}{2}(\lambda' - \delta)$		5	15.8		9.38859	
	17	9	25.2		0.00319	
					7.98598	

9.95727

0.00000

0.01323

Jan 8 9.97050

 $\lambda - \lambda'$ 10 30.72

0 72.05

 δ 73 3 19.2 $\delta - 7$ 39 37.7 $\delta - \delta$ 50 72 56.7

9.82670

8.22755

9.88875

0.16577

8.10547

 $\delta - \lambda'$ 73 49.7 δ -6 55 78.0

Eph 5 -6 55 72.7

 λ 12 17 77.02

Eph 1 12 17 76.27

O-C -8.3

O-C +0.78

Curr. Corr +0.7

-0.03

2nd Order Ref. +0.1

10753

Star Measures

21

	d	x	r	d	y	r
1	20178		20340	19852		18188
18.2	18282		12248	15560		17476
23.9	80		42	50		76
	82		38	-0703		-0712
	<u>15.1898</u>		<u>15.1906</u>	<u>23.9297</u>		<u>22.9288</u>

2	14792		14339	20946		20020
15.9	15208		13909	18054		12380
17.2	66		10	56		86
	-0415		-0429	36		42
	<u>15.9385</u>		<u>15.9571</u>	<u>11.2389</u>		<u>11.2371</u>

3	14622		13968	20938		19510
30.9	14908		13678	19832		15072
11.6	08		78	32		68
	-0286		-0290	40		9498
	<u>30.9719</u>		<u>30.9710</u>	<u>11.5607</u>		

19492
 15074
 80
 98
11.5583

Moon Measures.

10753

Star Measures

21

	d	X	n	d	Y	z
1	20178		20390	19852		12188
15.2	18282		12298	15560		17976
23.9	80		92	50		76
	82		38	-0703		-0712
	<u>151898</u>		<u>151906</u>	<u>239297</u>		<u>239288</u>

2	19792		19339	20946		20020
15.9	15208		13909	18059		12280
11.2	06		10	56		86
	-0915		-0429	36		41
	<u>159585</u>		<u>159571</u>	<u>112389</u>		<u>112371</u>

2	19622		13968	20938		19510
30.9	19908		13678	19832		15072
11.6	08		78	32		68
	-0286		-0290	40		9998
	<u>309719</u>		<u>309710</u>	<u>115607</u>		

19492
 15079
 80
 98
115583

Moon Measures.

10753 Plate Center & Constants

X	Y					
15.1902	23.9292	16 09	35.27	-25	13	29.9
15.9578	11.2380					
30.9712	11.5595	16 19	20.27	-26	57	22.7
46.1614	35.4887	32 28	55.31	-51	70	52.6
23.0807	17.7493	16 17	27.75	-26	5	26.3
22	18		-37.5			+1 58.2
+1.0807	+0.2557	16 13	53.25	-26	3	28.1
325	466.5					

Center { A 16 13 90
D -26 09 00

Tables $a = -1.2$ $e = -19$ $a \cdot e = +18$ $b + d = -11$
 Obs $=$ $=$ $=$ $=$

10753

Plate Center & Constants

x	y					
15° 19 02	23.9292	16 09	35.27	-25 13	29.9	
15° 95 78	11.2380					
30 97 12	11.5595	16 19	20.29	-26 57	22.7	
76.1619	33.9887	32 28	55.31	-51 70	52.6	
23.0807	17.7993	16 19	27.75	-26 5	26.3	
22	18		-39.5		+1 58.2	
+1.0807	+0.2357	16 13	53.25	-26 3	28.1	
325	966.2					

Center { A 16 13 90.
D -26 09 00

Tables
Obs $a =$ $e =$ $a \cdot e =$ $b + d =$

=

=

=

=

10753

Times

Etc.

Exp. to Stars	May 17	17	39		17	46	
" Moon		17	39	51.8	17	39	52.0
Clock fast			5	53.2			

H. Sid Time		17	33	58.7		+ 1 ^m	20 ^m
It Long		4	44	31.05			
G. Sid T.		22	18	29.75			
Sid T. M. Noon		3	39	24.26			
Interval		18	39	05.79			
Reductions			3	3.37			
G. M. T.		18	36	02.15			

From Naut alms.			N. a.			Dec.	
Moon 18	16	13	38.46		- 25	25	02.0
Motion m/m							

Tidular

10753

Lenses

Etc.

Egg to Stars May 17	17	39	1.7	96
Moon	17	39	51.8	17 39 52.0
Chalifant		5	53.2	

H. Sed. Lense	17	33	58.7	+1 ⁴ 20 ^m
It. Lense	4	49	31.05	
g. Sed. J	22	18	29.75	"
Sed. J. Moon	3	39	24.26	
Internal	18	39	05.99	
Reductions		3	3.39	
g. H. J	18	36	02.15	

from Naut. alms.		11	a.	Dec.
Moon 18	16	13	38.96	-23 ⁵ 25 ⁵ 02.0
Motion in 1 ^m				

Tubular

10743

Standard Coordinates

25

Cape No	2217-Mg 9.3	Cape No 2222-Mg 7.5	Cape No 2237-Mg 7.3
E	(16 08 37.09)	(16 09 11.25)	(16 18 21.19)
L	16 08 37.20	16 09 11.30	16 18 21.25
E			
Mean	16 08 37.20	16 09 11.30	16 18 21.25
Proc	58.07	58.82	58.99
A	16 09 35.27	16 10 10.12	16 19 20.29
A	16 13 40	16 13 40	16 13 40
S-A	- 7 04.73	- 3 29.88	+ 5 40.29
Sin(S-A)	- 298.72	- 209.87	+ 380.21
log ₁₀	2.388674	2.32195	2.53174
cos	9.95648	9.94990	9.95005
z ₀	0.86239	0.77909	0.98903
z ₀	- 711.85	- 601.30	+ 975.06
z ₁	- 17	- 12	+ 33
z ₂	148798	159857	317539
X	151902	159678	309712
X-z	+ 3104	- 279	- 7827
C	(- 25 10 59.6)	(- 26 57 15.8)	(- 26 55 05.9)
L	- 25 11 00.6	- 26 57 14.8	- 26 55 5.7
E			
Mean	- 25 11 00.6	- 26 57 14.8	- 26 55 05.7
Proc	- 2 29.3	- 2 28.5	- 2 17.0
A	- 25 13 29.9	- 26 59 43.3	- 26 57 22.7
D	- 26 04 00	- 26 04 00	- 26 04 00
S-D	+ 50 30.1	- 55 43.3	- 53 22.7
tan(S-D)	+ 3030.3	- 3393.6	- 3203.0
log ₁₀	3.48148	3.52922	3.50556
h ₁	0.81263	0.85537	0.83671
tan	9.6731	9.7071	9.7063
z ₂	1.7078	1.5582	1.9781
h ₂	8.7313	8.3187	8.7378
h ₀	+ 6.4957	- 7.1675	- 6.8661
h ₁	- 0.0270	- 0.0208	- 0.0053
h	28.4687	10.8117	11.1287
γ	23.9292	11.2380	11.5593
γ-h	- 53.93	+ 7.263	+ 7.311

10793

Standard Coordinates

25

Capella	2217-119'9.5	Capella	2222-119'7.5	Capella	2228-119'7.3
C	(16 08 37.09)	(16 09 11.25)	(16 18 21.19)		
L	16 08 37.20	16 09 11.30	16 18 21.		
E					
Mean	16 08 37.20	16 09 11.30	16 18 21.		
Prec	58.07	58.82	58.99		
A	16 09 35.27	16 10 10.12	16 19 20		
A	16 13 90	16 13 90	16 13 90		
A-A	- 9 04.73	- 3 29.88	+ 590.2		
Sum(A-A)	- 299.72	- 209.87	+ 390.2		
log.	2.388674	2.32175	2.53179		
cos	9.95698	9.99970	9.95005		
sin	0.85239	0.77909	0.98903		
T ₀	- 711.85	- 6.0130	+ 975.06		
T ₁	- 17	- 13	+ 32		
T ₂	178198	15.7857	317539		
T ₃	15.1902	15.9578	30.9712		
T ₄	+ 3109	- 279	- 7827		
C	(- 25 10 59.6)	(- 26 57 15.8)	(- 26 55 05.9)		
L	- 25 11 00.6	- 26 57 14.8	- 26 55 5.		
E					
Mean	- 25 11 00.6	- 26 57 14.8	- 26 55 05.9		
Prec	- 2 29.8	- 2 28.5	- 2 17.0		
A	- 25 13 29.9	- 26 59 73.3	- 26 57 22		
D	- 26 09 00	- 26 09 00	- 26 09 00		
A-D	+ 50 30.1	- 33 93.3	- 33 22.7		
Sum(A-D)	+ 3030.3	- 3393.6	- 3203.0		
log.	3.98198	3.52922	3.50556		
h.	0.81263	0.85537	0.83671		
h ₀	9.6751	9.7071	9.7063		
h ₁	1.7078	1.5582	1.7781		
h ₂	8.9313	8.3187	8.7378		
h ₀	+ 67937	- 71675	- 68661		
h ₁	- 0.0270	- 0.0208	- 0.0055		
h ₂	28.9687	108117	111287		
h ₃	23.9292	11.2380	11.5595		
h ₄	- 5395	+ 9265	+ 9311		

