

KG

11366

v.1041

CXC

190



✓ 13627

✓ 13641

✓ 13672

13627 x Star Measures

2 Apr 7

	d	2	d	2
1	19968	20270	20660	20010
17.8	12963	17240	11702	1896156
11.9	5659	38	08	5156
	52	62	52	10
	<u>17.6998</u>	<u>17.6972</u>	<u>11.8978</u>	<u>11.8986</u>

2	14579		20211	19678
25.0	1455958	13748	17979	11910
31.2	57	17077	80	10
		13722	11	62
	<u>25.0021</u>	<u>25.0022</u>	<u>31.2291</u>	<u>31.2246</u>

3	19787	19762	15578	1585659
27.3	16300	12931	15376	15666
11.7	07	29	77	
	88	70		
	<u>27.3723</u>	<u>27.3763</u>	<u>11.0203</u>	<u>11.0193</u>

Moon Measures

1		19222	19042	20086
25		16606	1640698	1261005
15.2	blank point	947	390	0005
		261	39	90
		<u>15.2622</u>	<u>15.2673</u>	<u>15.2516</u>

2	18570	19802		
25.2	15296	130305		
16.2	98	2025		
7.7	32	799		
	<u>25.3270</u>	<u>25.3226</u>		

3		19726	19997
25		15098	1459791
17.4		103	8891
		22	97
		<u>17.4627</u>	<u>17.4597</u>

13627

x Star Measures

y hr 9

1

	d	2	d	2
1	19968	20270	20600	20010
14.6	12963	17270	11702	18961.56
11.9	5659	38	08	5.1
	52	62	52	10
	<u>19.6998</u>	<u>19.6972</u>	<u>19.8998</u>	<u>11.8996</u>

3	14579		20211	19698
25.0	19559.58	13748	17979	11910
31.2	57	1	80	10
		13722	11	62
	<u>25.0021</u>	<u>25.0022</u>	<u>31.2231</u>	<u>31.2246</u>

3	19789	19462	15578	15856.59
213	16300	12931	15376	15666
11.1	07	29	79	
	88	70		
	<u>27.3983</u>	<u>27.3963</u>	<u>110203</u>	<u>11.0193</u>

Moon Measures

1		19222	19042	20086
25		16606	16406.98	12610.05
15.2	blank point	94	390	0005
		26	39	90
		<u>15.2622</u>	<u>15.2643</u>	<u>15.2516</u>

3	18540	19802	
25.2	15296	13030.25	
16.2	98	2025	
17	32	799	
	<u>25.3270</u>	<u>25.3226</u>	

3		19726	19997
25		15098	19097.91
17.4		103	88
		22	97
		<u>17.4627</u>	<u>17.9597</u>

Moon Measure

2

4	19112	20426	20009	19426
24.4	13982	15386	14998	14290
15.0	7277	88	841	8286
	02	29	02	18
	<u>24.5130</u>	<u>Slant</u>	<u>24.5012</u>	<u>24.4967</u>
5			19296	19977
24			16562	12692
183			5056	700696
			90	69
			<u>18.2739</u>	<u>18.2725</u>

6		20427	19960
22.2		16342	14039
18.4		38	5175
17		22	60
		<u>18.4085</u>	<u>18.4085</u>

7	13928	13298
22.1	13778	13710
18.0	80	10

22.0449

22.0412

8	19867
21.3	16652
17.0	52
	62

21.3211

24329
13526
19
22
23

21.3199

4th Star

13.6	18351	20079
13.7	12163	16247
	63	4345
	38	70
	<u>13.6178</u>	<u>13.6170</u>

19457	18898
14290	14068
30095	7069
44	88
<u>13.5455</u>	<u>13.5175</u>

Mean Measure

2

4	19112	20426	20009	19926
29.4	15982	15386	14998	74990
18.0	7277	88	891	8286
	02	28	02	18
	<u>24.5130</u>	<u>Slant</u>	<u>24.5012</u>	<u>24.9969</u>
5			19296	19977
29			1656256	12692676
183			5056	700676
			90	69
			<u>18.2739</u>	<u>18.2725</u>

6			20427	19960
1232			16392	1903945
18.4			38	51
+7			22	60
			<u>18.9085</u>	<u>18.9085</u>

7	13928	13298
221	13978	13710
180	80	10

22.074922.0912

8	19867	20329
213	16652	1352609
17.0	52	8209
	62	23
	<u>21.3211</u>	<u>21.3199</u>

44 Star

13.6	18351	20079	19957	18898
13.7	12163	16297	19290	19068
	63	4345	30095	706
	38	70	94	88
	<u>13.6178</u>	<u>13.6170</u>	<u>13.5755</u>	<u>13.5170</u>

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Times etc.

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Date Sept 30 '77

Exp. to stars	3	18	3	30	"
" " Moon	3	23	30.7	3	23 30.7
clock slow		0	46.2		

H. Sid Time	3	27	16.75	$\delta - \alpha = +2^h$	40.5
H Long	4	47	31.05	"	
G. Sid T.	8	08	47.80		
Sid T. M. Noon	12	34	38.71		
Interval	19	34	09.09		
Reduction		3	12.36		
G. M. T.	19	30	56.73		

From Nant. Alm.	0	42	29.75	+9	57	35.5
Moon 19 ^h			2.3383			17.249
Moon in 1 ^m						
" " 30.94		1	12.36	+7		20.9
Saturn Place	0	43	41.81	+10	07	56.4

Moon's Age 15 days

Parrish 60 42.38

Lunar 16 34.0

994.0 R 994.0

12.0 Aug 11.3

- 0.7 L₂ 4 - 0.7

1005.6 R 1004.9

2.1556 R 2.1541

- 1039 R - 1038

2.0517 (1+2) R 2.0503

4.2095 R 4.2037

$$\begin{aligned}
 a &= -506.1 \\
 &\quad +24 \\
 &\hline
 &= -482.1
 \end{aligned}$$

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Times etc.

5

Date Sept 30 '17

Exp to Stars	3	18		3	30	"
" Moon	3	23	30.9	3	23	30.7
Clock slow		0	46.2			

H Sid Time	3	24	16.75	5-12+2"	40.5"
H Long	9	44	31.05	"	
G Sid T	8	08	47.80		
Sid T M Noon	12	34	38.71		
Interval	19	34	09.09		
Reduction		3	12.36		
G M T	19	30	56.73		

from Hank Alm.	0	42	29.75	+9	57	35.5"
Moon 19"			2.3383			17.249"
Moon in 1"						
" 30.945"		1	12.36		+7	20.9
Tabular Place	0	43	41.81	+10	04	56.4"

Moon's Age 15 days

Parallax 60 42.38"

Semi 16 39.0"

999.0 R 994.0

12.0 Aug 11.3

-0.4 P₁₂ 4 -0.7

1005.6 R 1004.9

2.1556 R 2.1541

-1039" aR -1038"

2.0517 (1+4)R 2.0503

42095 R 42037

2 = -506.1"

+24

-482.1"

13627 Plate Constants

7

X	14.6985	25.0021	27.3473
Y	14.8322	25.8307	28.1134
X-Y	-1337	-8286	-7661

Y	11.8947	31.2238	11.0198
Y	11.9791	32.1920	10.9509
Y-Y	+844	-9682	+689

X-Y	+8974	+611X	-7168
-1337 + 7349 = +6012 + 1067 = +7079 + 89 = +7168			
-8286 + 12501 = 4215 + 2801 = 7016 + 152 = 7168			
-7661 + 13674 = 6013 + 988 = 7001 + 167 = 7168			
23.2707 + 11635 = +1767	+172		23.8782
23.2714 + 11636			23.8791

Y-Y	-864X	+3.07	-3873
-844 + 5947 = +5103 - 1270 = +3833 + 39 = +3872			-1
-9682 + 15612 = 5930 - 2160 = 3770 + 103 = 3873			0
+689 + 5510 = 6199 - 2362 = 3837 + 36 = 3873			0
16.3583 + 8179 = -2011	+54		16.5932
16.3565 + 8178			16.5913

Tables.	a = -1.3	e = -1.9	a-e = +0.6	b+d = -3.0
Obs.	-506.1	-503.3	-2.8	-3.3
	-504.8	-501.4	-3.4	-0.3

13627 Plate Constants

8

$$\begin{array}{rcl}
 X & 19.6985 & 25.0021 & 27.3973 \\
 Y & 19.8322 & 25.8307 & 28.1139 \\
 X-Y & -1337 & -8286 & -7661
 \end{array}$$

$$\begin{array}{rcl}
 Y & 11.8947 & 31.2238 & 11.0198 \\
 Y & 11.9791 & 32.1920 & 10.9509 \\
 Y-Y & +844 & -9682 & +689
 \end{array}$$

$$\begin{array}{rcl}
 X-Y & +89.74 & +6.18 & -7168 \\
 -1337 + 7399 & = +6012 + 1067 & = +7079 + 89 & = +7168 \\
 -8286 + 12501 & = 9215 + 2801 & = 7016 + 152 & = 7168 \\
 -7661 + 13679 & = 6013 + 988 & = 7001 + 167 & = 7168 \\
 23.2707 + 11635 & & +1967 & +192 & 23.8782 \\
 23.2119 + 11636 & & & & 23.8791
 \end{array}$$

$$\begin{array}{rcl}
 Y-Y & -86.41 & +2.37 & -3873 \\
 -844 + 5947 & = +5103 - 1270 & = +3833 + 39 & = +3872 \\
 -9682 + 15612 & = 5930 - 2160 & = 3770 + 103 & = 3873 \\
 +689 + 5510 & = 6199 - 2362 & = 3837 + 36 & = 3873 \\
 16.3583 + 8179 & & -2011 & +59 & 16.5932 \\
 16.3565 + 8178 & & & & 16.5913
 \end{array}$$

$$\begin{array}{rcl}
 \text{Tables. } a = -1.3 & e = -1.9 & a-e = +0.6 & b+d = -3.0 \\
 \text{Obs. } & -506.1 & = -503.3 & = +2.8 & = -3.3
 \end{array}$$

13627 Moenia Center

5

x	$x - x_0$	Δx	$(x - x_0)^2$	$(x - x_0) \tilde{f}(y - y_0)$	O - C
1 unit					
2 +25.3233	+2.0523	0	4.2119	4.2119	+82
3 25.0000	+1.7290	+4	2.9908	4.2120	+83
4 24.4988	+1.2278	+6	1.5090	4.2120	+83
5 24.0000	+0.7290	+6	0.5323	4.2075	+8
6 23.2710	0.0000	+7	0.0000	4.2132	+95
7 22.0431	-1.2279	+6	1.5062	4.2092	+55
8 21.3202	-1.9508	+2	3.8048	4.2195	+158

$$R^2(4.2037)$$

$$4.2095 \text{ Corr'd}$$

y	$y - y_0$	Δy	$(y - y_0)^2$	$\checkmark$
1 unit				
2 16.3560	0.0000	0	0.0000	90
3 17.7510	+1.1050	+1	1.2212	54
4 18.0000	+1.6740	+1	2.7030	37
5 18.2722	+1.9162	+1	3.6722	21
6 +18.4085	+2.0525	+1	4.2132	0
7 18.0000	+1.6740	+1	2.7030	323
8 17.0000	+0.6740	+0	0.4147	288

Approx. Center

$$y = 18 \quad x = 24.4988$$

$$22.0431$$

$$46.5419$$

$$x_0 = 23.2710$$

$$x_{\max} = 25.3233$$

$$R = 2.0523$$

$$y_{\max} = 18.4085$$

$$y_0 = 16.3562$$

$$2.0537$$

$$\begin{cases} x_0 = 23.2710 \\ y_0 = 16.3560 \end{cases}$$

$$B = +0.6$$

$$A = +3.7$$

13627 Moon's center

5

x	$x - x_0$	Δx	$(x - x_0)^2$	$(x - x_0) + (y - y_0)^2$	$O - C$
1 unit					
2 +25.3233	+2.0523	0	4.2119	4.2119	+82
3 25.0000	+1.7290	+4	2.9908	4.2120	+83
4 24.9988	+1.2278	+6	1.5090	4.2120	+83
5 24.0000	+0.7290	+6	0.5323	4.2045	+8
6 23.2710	0.0000	+7	0.0000	4.2132	+95
7 22.0931	-1.2279	+6	1.5062	4.2092	+55
8 21.3202	-1.9508	+2	3.8048	4.2195	+158

 $R^2(4.2037)$

7.2095 Grind

y	$y - y_0$	Δy	$(y - y_0)^2$	Δ
1 unit				
2 16.3560	0.0000	0	0.0000	90
3 17.7510	+1.1050	+1	1.2212	57
4 18.0000	+1.6440	+1	2.7030	37
5 18.2722	+1.9162	+1	3.6722	21
6 +18.9085	+2.0525	+1	4.2132	0
7 18.0000	+1.6440	+1	2.7030	322
8 17.0000	+0.6440	+0	0.4147	288

Approx. Center

$$y = 18 \quad x = 24.9988$$

$$22.0931$$

$$46.5419$$

$$x_0 = 23.2710$$

$$x_{\max} = 25.3233$$

$$R = 2.0523$$

$$2.0537$$

$$y_{\max} = 18.9085$$

$$y_0 = 16.3562$$

$$\begin{cases} x_0 = 23.2710 \\ y_0 = 16.3560 \end{cases}$$

$$\begin{aligned} B &= +0.6 \\ A &= +3.9 \end{aligned}$$

Formation of Normals.

1			
2	0	+ 1680	0
3	+ 190	+ 915	+ 1735
4	+ 202	+ 1020	+ 1360
5	+ 140	+ 58	+ 154
6	0	0	+ 1950
7	- 202	- 677	+ 900
8	- 125	- 308.0	+ 1010
	+ 532	+ 367.3	+ 685.9
	- 327	- 345.7	- 522.0 <i>corr</i>
	+ 2.05	- 8.4	
		+ 148.5 <i>corr</i>	
		+ 170.1	+ 158.9

13627 Conditional Equations.

6

			- 58 = Corr				= 0 - c	0 - c
1								
2	+ 2.05	0.00	= + 82	+ 17	+ 0	= + 17	+ 85	+ 7
3	+ 1.73	+ 1.10	= + 83	+ 17	+ 10	= + 17	+ 69	+ 11
4	+ 1.23	+ 1.67	= + 83	+ 10	+ 16	= + 26	+ 57	- 1
5	+ 0.73	+ 1.92	= + 8	+ 6	+ 18	= + 24	- 16	- 74
6	- 0.00	+ 2.05	= + 95	0	+ 19	= + 19	+ 76	+ 18
7	- 1.23	+ 1.67	= + 55	+ 10	+ 16	= + 6	+ 49	- 9
8	- 1.95	+ 0.67	= + 158	+ 16	+ 6	= + 10	+ 148	+ 90
	+ 2.56	+ 8.99						

$$\begin{array}{r}
 + 464 \\
 - 16 \\
 \hline
 + 126 \\
 - 84 \\
 \hline
 \text{E.F.}
 \end{array}$$

$$17.55 + 2.05 = - 87 + 170.1$$

$$+ 2.05 + 17.93 = + 680.9 + 158.9$$

$$+ [] + 0.29 = - 1.2 + 19.6$$

$$+ 17.67 = + 682.1 + 139.3 \quad b = + 45.6 + 9.5$$

$$17.55 = - 87 - 95.6 = - 107.0 \quad a = - 4.2 + 8.3$$

$$= + 170.1 - 19.5 = + 120.6$$

are 162

$$\frac{p}{m} = .24$$

$$\frac{\Sigma V}{m} = + 6.0$$

$$\frac{+ 6.0}{.24} = + 27.0$$

$$\Delta R = + 0.3$$

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Conditional Equations

$$-58 = \text{corr}$$

$$0 = e$$

$$0 = c$$

+ 2.05	0.00	= + 82	+ 17	+ 0	= + 17	+ 65	+ 7
+ 1.73	+ 1.10	= + 83	+ 12	+ 10	= + 19	+ 89	+ 11
+ 1.23	+ 1.67	= + 83	+ 10	+ 16	= + 26	+ 57	- 1
+ 0.73	+ 1.92	= + 8	+ 6	+ 18	= + 24	- 16	- 74
- 0.00	+ 2.05	= + 95	0	+ 19	= + 19	+ 76	+ 18
- 1.23	+ 1.67	= + 55	+ 10	+ 16	= + 64	+ 99	- 9
- 1.95	+ 0.67	= + 158	+ 16	+ 6	= + 10	+ 198	+ 90
+ 2.56	+ 8.99						

$$+ 464 + 126$$

$$- 16 - 84$$

$$14.55 + 2.05 = - 89 + 140.1$$

$$+ 2.05 + 14.93 = + 682.9 + 158.9$$

$$+ 2.1 + 0.29 = - 1.2 + 19.6$$

$$+ 14.69 = + 682.1 + 139.3 \quad b = + 45.6 + 9.5$$

$$14.55 = - 8.9 - 95.6 = - 104.5 \quad a = - 7.2 + 8.3$$

$$= + 140.1 - 14.5 = + 120.6$$

$$\text{arc } 162$$

$$P_n = 24$$

$$\frac{E V}{n} = + 6.0$$

$$\frac{+ 6.0}{.27} = + 27.0$$

$$\Delta R = + 0.3$$

13627 Moon's Mean Position

7

X_0 23.2710
 $-3+4$
 23.2707
 23.2717

Y_0 16.3560
 $+22+5$
 16.3583
 16.3565

From Plate Constants.

X 23.8791"

Y 16.5913"

Z +1.8791"

W -14.087"

$\log Z$ 0.27395"

$\log \tan \delta$ 9.2236"

$\log S$ 9.99400"

Z 0.5879"

8.50724"

7.0537"

1.77271"

6.8248"

$X-A$ 59.25"

W +.0007"

1.4094

A 0 40 40.00"

$\log h$ 0.14903"

7.33115"

q_0 0 41 39.25"

2.81788 h - 657.5"

Red +7.61"

$S-D$ -10 57.5"

q' 0 41 43.86"

D +9 41 00.0"

S_0 +9 30 02.5"

Red +29.4"

δ' +9 30 31.9"

13627 Morris Mean Position

$$\begin{aligned}
 X_0 & 23.2710 \\
 & - 3 + 9 \\
 & 23.2707 \\
 & 23.2717
 \end{aligned}$$

$$\begin{aligned}
 Y_0 & 16.3560 \\
 & + 22 + 5 \\
 & 16.3583 \\
 & 16.3565
 \end{aligned}$$

From Plate Constants

$$X \quad 23.8791''$$

$$Y \quad 16.5983''$$

$$Z \quad +1.8791''$$

$$W \quad -14.087''$$

$$\log 3 \quad 0.27395''$$

$$\log \tan \delta \quad 9.2236''$$

$$\cos \delta \quad 9.99400''$$

$$Z \quad 0.5779''$$

$$8.50724''$$

$$7.0539''$$

$$1.77251''$$

$$6.8249''$$

$$X-A \quad 59.25''$$

$$H \quad +.0007''$$

$$1.4094''$$

$$A \quad 0 \quad 40 \quad 90.00''$$

$$\log 40 \quad 0.19943''$$

$$7.33113''$$

$$Y_0 \quad 0 \quad 41 \quad 39.25''$$

$$2.81784'' = 652.5''$$

$$Red \quad +7.61''$$

$$S-D \quad -10 \quad 58.5''$$

$$Y' \quad 0 \quad 41 \quad 43.84''$$

$$D + 9 \quad 41 \quad 00.0''$$

$$S_0 + 9 \quad 30 \quad 02.5''$$

$$Red \quad +29.8''$$

$$S' + 9 \quad 30 \quad 31.8''$$

13627 Lunar Parallax

8

$d' \quad 0 \quad 41 \quad 73.86''$
 $\delta \quad 3 \quad 24 \quad 16.75''$
 $\delta - d' + 2 \quad 42 \quad 32.89''$
 $= +40 \quad 38 \quad 13.35''$
 $\quad \quad 14 \quad 51.7''$
 $+40 \quad 23 \quad 21.6''$

$\pi \quad 60 \quad 72.38''$
 $9.86913''$
 $8.24694''$
 $9.81375''$
 $0.00676''$
 $7.93658''$

$9.95727''$
 $0.00000''$
 $0.11824''$
 $0.07551''$

$d - d' \quad + 29 \quad 72.72''$
 $= \quad + 1 \quad 58.83''$

$\delta \quad 49 \quad 57 \quad 21.6''$

$\delta + 9 \quad 30 \quad 31.9''$

$\delta - \delta 40 \quad 26 \quad 79.7''$

$9.82680''$
 $8.24694''$
 $9.81207''$
 $0.11603''$
 $8.00144''$

$\delta - d' \quad + 34 \quad 29.5''$

$\delta \quad + 10 \quad 04 \quad 61.4''$

$\text{Eph} \delta + 10 \quad 04 \quad 56.7''$

$O - C \quad + 5.0''$

$\text{Crown} \quad - 0.2''$

$\text{2nd Clid. Ref.} \quad - 0.0''$

$\delta + 10 \quad 04 \quad 61.2''$

$O - C \quad + 4.8''$

$\alpha \quad 0 \quad 43 \quad 42.69''$

$\text{Eph} \alpha \quad 0 \quad 43 \quad 41.81''$

$O - C \quad + 0.88''$

$\text{Crown} \quad - 0.01''$

$\alpha \quad 0 \quad 43 \quad 42.68''$

$O - C \quad + 0.87''$

13627 Lunar Parallax

8

$\alpha' \quad 0 \quad 41 \quad 43.86''$
 $\delta \quad 3 \quad 27 \quad 16.75''$
 $0-\alpha'+2 \quad 42 \quad 32.89''$
 $=+40 \quad 38 \quad 13.35''$
 $\quad \quad 17 \quad 54.72''$
 $+40 \quad 23 \quad 24.6''$

$\pi \quad 60 \quad 42.38''$
 $9.86913''$
 $8.29694''$
 $9.81375''$
 $0.00676''$
 $7.93658''$

$9.95727''$
 $0.00000''$
 $0.11824''$
 $0.07551''$

$\alpha-\alpha' \quad +29 \quad 42.42''$
 $= \quad +1 \quad 58.83''$

$\delta \quad 48 \quad 57 \quad 21.6''$

$\delta \quad +9 \quad 30 \quad 31.9''$

$\delta-\delta \quad 40 \quad 26 \quad 49.7''$

$9.82670''$
 $8.27694''$
 $9.81207''$
 $0.10603''$
 $8.00194''$

$\alpha-\alpha' \quad +39 \quad 29.5''$

$\delta \quad +10 \quad 04 \quad 60.4''$

$\text{Cphs} \quad +10 \quad 04 \quad 56.7''$

$0-C \quad +5.0$

$\text{Cmn} \quad -0.2$

$\text{Ind Clid Rif} \quad -0.0$

$\delta \quad +10 \quad 04 \quad 61.2$

$0-C \quad +4.8$

$\alpha \quad 0 \quad 43 \quad 42.68''$

$\text{Ephd} \quad 0 \quad 43 \quad 41.81''$

$0-C \quad +0.88''$

$\text{Cmn} \quad -0.01$

$\alpha \quad 0 \quad 43 \quad 42.68''$

$0-C \quad +0.87$

1364 1 ^{line}

Star Measures

205-

9

d	1	2	3	4
19.8	19381	19769	20143	17490
10.8	11280	17864	12380	15248
	84	6862	84	4079
	68	69	20	90
	<u>19.8089</u>	<u>19.8092</u>	<u>10.7743</u>	<u>10.7757</u>

2	1	2	3	4
20.4	20235	20360	19740	20343
26.6	15449	15140	16180	13929
	4547	5146	94	20
	39	40	76	38
	<u>20.4790</u>	<u>20.4796</u>	<u>26.3578</u>	<u>26.3585</u>

3	1	2	3	4
29.4	15194		20558	20139
9.2	14866	15261	18901	11772
	68	6362	01	73
		14917	94	32
	<u>29.0327</u>	<u>29.0345</u>	<u>9.1660</u>	<u>9.1680</u>

Moon Measures

1	2	3	4
25		19204	20540
15.1		18249	11952
		4547	38
		194	16232
		<u>15.0956</u>	<u>15.0912</u>

2	1	2	3
25.6	19527	19348	
16	14129	14710	
	1924	1412	
	21	30	
	<u>25.5400</u>	<u>25.5374</u>	

3	1	2	3
25.7	19543	19339	
16.7	13420	15492	
+X	18	46	
	39	22	
	<u>25.6119</u>	<u>25.6111</u>	

13671

Star Measures

Lrs-

?

L	d	71	d	2
19.8	19381	19769	20193	17490
10.8	11280	17864	12380	15248
	89	6062	84	4049
	68	69	20	90
	<u>19.8089</u>	<u>19.8092</u>	<u>10.7743</u>	<u>10.7759</u>

L	d	71	d	2
20.4	20235	20360	19790	20393
26.6	15449	15140	16190	13929
	75	51	92	20
	39	40	76	38
	<u>20.4790</u>	<u>20.4796</u>	<u>26.3578</u>	<u>26.3585</u>

L	d	71	d	2
29.4	15194	20558	20139	
9.2	14866	15261	18901	11772
	67	63	01	73
	68	19917	94	32
	<u>29.0327</u>	<u>29.0395</u>	<u>9.1660</u>	<u>9.1690</u>

Myron Measures

L	d	71	d	2
25.1	19209	18249	20540	
	95	97	11932	75
	194	38	16232	
	<u>15.0956</u>		<u>15.0912</u>	

L	d	71	d	2
25.6	19527	19348		
16	14129	14710		
	1929	1412		
	21	30		
	<u>25.5700</u>	<u>25.5379</u>		

L	d	71	d	2
25.7	19543	19339		
16.7	13920	15192		
24.7	18	46		
	39	22		
	<u>25.6119</u>	<u>25.6111</u>		

Moon Measures.

10

4	19561	20322
25.6	13930	15948
17	2427	4245
	50	20
	<u>25.5627</u>	<u>25.5627</u>

5
25.0
18.4

16632	15220
16548	15330
3843	2427

18.0089 18.0107

6
24.0
18.6

18646	18868
13166	17332
6867	2227
38	54

18.5475 18.5465

7
23.5
18.5
+4

18640	18852
12679	14798
7075	802
32	37

18.5960 18.5954

8
23
18.6

18664	18868
13996	14000
9277	97
56	58

18.5166 18.5134

4th Star

13.6	18351	20079
13.5	12163	16247
	63	4345
	38	70
	<u>13.6178</u>	<u>13.6170</u>

19757	18898
14290	14068
300	7069
44	88
<u>13.6155</u>	<u>13.5175</u>

Moon Measures

10

<u>4</u>	19561	20322
256	13930	15998
17	2427	9295
	50	20
	<u>255627</u>	<u>255629</u>

<u>5</u>	16632	15220
250	16598	15250
18+	3893	2927

<u>180089</u>	<u>180107</u>
---------------	---------------

<u>6</u>	18646	18868
270	13166	19332
18.6	6867	2227
	38	54
	<u>185475</u>	<u>185465</u>

<u>7</u>	18640	18852
235	12679	19798
18.5	7075	802
+4	32	37
	<u>185960</u>	<u>185959</u>

<u>8</u>	18664	18868
23	13996	19000
18.6	9297	13997
	56	58
	<u>185166</u>	<u>185134</u>

4th Star			
13.6	18351	20079	19957
13.2	12163	16297	19290
	63	9395	300
	38	70	44
	<u>13.6178</u>	<u>13.6170</u>	<u>13.5155</u>
			<u>13.5175</u>

13641 Times Etc. Dec 5th 11
 Date Oct 1st
 Exp. to Stars 2 08 2 20
 " " Moon 2 13 45.8" 2 13 46.1"
 Clock slow 0 46.7"

H. Sid J. 2 14 32.63" $\delta - \gamma = + 0^h$ 37"
 H. Long. 4 44 31.05"
 G. Sid J. 6 59 03.70"
 Sid J. M. M. 12 38 35.26"
 Interval 18 20 28.77"
 Reduction 3 0.29"
 G. M. J. 18 17 28.15"

From Naut. alman. R.A. Dec.
 Moon 18^h 1 36 47.91" +15 03 43.9"
 Moon in 1^{hr} 2.3860 12.201"
 " 17.4692 41.64 +3 33.1
 Tabular Place 1 37 39.59" +15 07 17.0"

Moon's age 16 days²
 Parallax 60' 08.50"
 Semi-d. 16' 24.7"
 R 984.7"
 Aug. 15.4"
 R (5) -0.3
 R 999.8"
 R 2.1732"
 alt. -1030"
 (1+2) R 2.0402"
 R 7.1624"

$$934 = 13.8"$$

$$\begin{aligned} a &= -507.7" \\ + 27 \\ &= -480.7" \end{aligned}$$

Cape 222 - 2.96.2

1 30 25.50

25.79

190.23 25.98

1 30 25.99

+ 54.93

1 31 19.92

1 36 10

- 9 50.08

- 290.06

2,462.49 h

9,986.46

0,956.19 h

- 9.0909

- 23

12,957.3

13,617.4

+ 6601

+ 19 08 59.9

9 00.3

9 00.1

+ 19 09 00.1

+ 5 17.3

+ 19 14 14.4

19 51 00.4

- 36 25.6

- 2205.7

3,343.55 h

0,679.70 h

9,704.4

1,912.4

8,370.2

- 9,728.2

+ 0,023.5

13,293.3

13,516.5

+ 2,212

13641	Times	Etc		Sec	5"	11
Date Oct 1						
Exp. to Stars	2	08		2	20	"
" Moon	2	13	45.8"	2	13	46.1"
Clock slow		0	46.7"			
H. Sid J	2	17	32.65"	8-1 = +0'	37"	
H Long	7	44	31.05"			
G Sid J	6	29	03.70"			
Sid J M.H.	12	38	35.26"			
Interval	18	20	28.79"			
Reduction		3	0.29"			
G.M.J.	18	17	28.15"			

From Mount Allen	R.A.	Sec.	
Moon 18 ^h	1	36	47.91" +15 03 43.9"
Moon in 1 ^h			2.3860 11.201"
" 17.4692			91.84 +3 33.1
Tabular place	1	37	29.59" +15 07 17.0"

Moon's age	16 days
Parallax at 60'	08.50"
Semi-d.	16' 24.7"
R	984.7
Aug.	15.4"
Dir (5)	-0.3
R	999.3"
R	2.1732"
alt.	-1.039"
(1+4)R	2.0402"
R	7.1624"

$$939 = 13.8$$

$$a = -50.4.9$$

$$+ 27$$

$$- 480.9$$

Cape 222 - m 96.2

1 30 25.50

25.79

1902.3

25.48

1 30 25.49

+ 54.43"

1 31 19.92

1 36 10

- 4 50.08

- 290.06

2.46 249 h

9.98 646

0.95 619 h

- 9.04 04

- 23

12.95 73

13.61 77

+ 6.60 1

+ 17 08 59.9

9 00.3

9 00.1

+ 14 09 00.1

+ 5 17.3"

+ 14 14 14.4

14 51 00.4

- 36 45.6

- 22 05.7

3.34.355 h

0.67 770 h

9.40 44

1.9 12.4

8.37 02

- 47 28.2

+ 0.02 35

13.29 53

13.51 65

+ 2.2 12

13671

Standard Coordinates

12

Cape No	231 - In 96.9	Cape No	232 - In 96.1	Cape No	248 - In 98.6
C	1 33 53.83	1 37 17.02	1 39 03.82		
L	53.83	17.04	03.82		
E	1902 53.83	1902.3 16.98	03.80		
Mean	1 33 53.83	1 37 17.01	1 39 03.81		
Dec	57.55	57.89	57.57		
α	1 34 48.36	1 35 11.90	1 39 58.35		
A	1 36 10	1 36 10	1 36 10		
$\delta - A$	- 1 2 16.2	- 58.10	+ 3 48.35		
$\sin(\delta - A)$	- 81.62	- 58.10	228.37		
$\log \mu$	1.91 180	1.76 418	2.35 859		
μ last	9.98 715	9.98 288	9.98 758		
μ 30	0.40 619	0.25 430	0.85 341		
γ_0	- 257.80	+ 1796.0	+ 7135.3		
γ_1	- 4	- 7	+ 27		
γ	1.9 45 16	2020.36	2913.77		
X	1980.90	2047.93	2903.36		
X- γ	+ 357.4	+ 2757	- 1041		
C	+13 46 41.0	+15 53 57.8	+13 33 17.2		
L	41.4	57.1	17.8		
E	40.4	57.1	16.4		
Mean +13	46 40.9	+15 53 57.9	+13 33 17.1		
Dec	+5 11.8	+5 12.0	+5 9.2		
δ +13	51 52.7	+15 59 06.3	+13 38 26.3		
D +14	51 00	17 51 00	17 51 00		
$\delta - D$	- 59 07.3	+ 108 06.3	- 1 13 33.7		
$\tan(\delta - D)$	- 3577.6	+ 4088.8	- 4354.3		
$\log \mu$	3.54 993	3.61 138	3.63 892		
μ 30	0.88 108	0.94 253	0.97 007		
$\log \tan \delta$	9.39 27	9.45 71	9.38 50		
μ 2	0.81 24	0.50 86	1.70 68		
μ 1	7.25 82	7.01 91	8.14 52		
h_0	- 76047	+ 87606	- 93370		
h_1	+ 00018	+ 00010	+ 00170		
h	103971	267616	86800		
h	107778	263381	91650		
$h - h_0$	+ 3777	- 7035	+ 7850		

3671

Standard Coordinates

12

Cape No 231 - 1196.9	Cape No 232 - 1196.1	Cape No 248 - 1198.6
C 1 33 53.83	1 39 17.02	1 39 03.82
L 53.83	17.09	03.82
E 53.83	16.98	03.80
Mean 1 33 53.83	1 39 17.01	1 39 03.81
Puc 59.55	59.89	59.59
α 1 34 48.36	1 35 11.90	1 39 58.35
A 1 36 10	1 36 10	1 36 10
$\lambda - A$ - 1 2 16.2	- 58.10	+ 3 48.35
$\sin(\lambda - A)$ - 81.62	- 58.10	228.39
$\log$ 1.91180	1.76418	2.35859
$\log$ 9.98715	9.98285	9.98758
$\log$ 0.40619	0.25930	0.85391

γ_0 - 2.5780	+ 1.7960	+ 1.1353
γ_1 - 9	+ 4	+ 29
γ 1.94516	2.02038	2.91377
λ 194090	204793	290336
$\lambda \cdot \gamma$ + 3574	+ 2759	- 1041

C +13 46 41.0	+15 53 54.8	+13 33 17.2
L 41.9	54.1	17.8
E 40.9	54.1	16.9
Mean +13 46 40.9	+15 53 54.3	+13 33 17.1
Puc +5 11.8	+5 12.0	+5 7.2
α +13 51 52.7	+15 59 06.3	+13 38 26.3
D +14 51 00	19 51 00	18 51 00
$\lambda - D$ - 59 07.3	+ 108 06.3	- 1 12 33.7
$\tan(\lambda - D)$ - 3597.6	+ 4086.8	- 4359.3
$\log$ 3.559993	3.61138	3.63892
$\log$ 0.88108	0.94353	0.97007

$\log \tan$ 9.3929	9.9571	9.3850
$\log$ 0.8124	0.5088	1.7068
$\log$ 7.2582	7.0191	8.1952

h_0 - 76047	+ 87606	- 73390
h_1 + 00018	+ 00010	+ 00190
h 10.3971	26.7616	86800
y 10.7798	26.3581	91650
$y \cdot h$ + 3777	- 4078	+ 2810

S_0	H_0	ΔS	-2.95	$+2.77$	-2
-9.04	-4.73	-22	$+26 = +4$	$-1 = +3$	
-2.55	-7.60	-4	$+7 = +3$	$-1 = +2$	
-1.80	$+8.76$	-4	$+5 = +1$	$+2 = +3$	
$+7.14$	-9.33	$+25$	$-21 = +4$	$-2 = +2$	
$M + 1.42$	-1.54		-4	$-0 = -6$	$= -0.02$

$\Delta \eta$	-1.87	$+7.5$	$+5$
-12	$+8 = -4$	$-6 = -10$	
-12	$+14 = +2$	$-2 = -0$	
$+18$	$-16 = +2$	$-1 = +1$	
-32	$+17 = -15$	$+5 = -10$	
	$+3$	$+1 = +9$	$= +0.4$

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Plate Center and Constants

13

$\begin{array}{r} 19.8090 \\ 20.4793 \\ 29.0336 \\ \hline + 2.1910 \\ \hline 33.4 \end{array}$	$\begin{array}{r} 10.7748 \\ 26.3581 \\ 9.1650 \\ \hline + 7.2252 \\ \hline 490 \end{array}$	$\begin{array}{r} 134 \\ + 1 \\ 136 \end{array}$	$\begin{array}{r} 48.38 \\ 13.2 \\ 01.6 \end{array}$	$\begin{array}{r} + 13 \\ + \\ 14 \end{array}$	$\begin{array}{r} 51.527 \\ 59.012 \\ 50.529 \end{array}$
--	--	--	--	--	---

+ 73.2 59° 0.25'

Center { A 1 36 10.
D + 18 51 00.

7) 13.6179 13.5165

$\begin{array}{r} x-3 \\ + 35.74 \\ + 27.57 \\ - 10.91 \\ + 66.01 \\ 23.5726 \\ 23.5723 \end{array}$	$\begin{array}{r} + 500x \\ + 9904 \\ + 10240 \\ + 14517 \\ + 6809 \\ + 11786 \end{array}$	$\begin{array}{r} + 30.64 \\ + 13878 \\ + 8073 \\ + 281 \\ + 414 \\ + 506 \end{array}$	$\begin{array}{r} + 44x \\ + 330 \\ + 8073 \\ + 128 \\ + 60 \\ + 104 \end{array}$	$\begin{array}{r} - 13889 \\ + 13896 \\ 13804 + 90 = 13894 \\ 13757 + 128 = 13885 \\ 13824 + 60 = 13884 \\ 23.4233 \\ 23.4230 \end{array}$
--	--	--	---	--

$\begin{array}{r} y-11 \\ + 37.77 \\ - 40.35 \\ + 48.50 \\ + 22.12 \\ 16.5531 \\ 16.5529 \end{array}$	$\begin{array}{r} + 500y \\ + 5387 \\ + 13179 \\ + 4582 \\ + 6758 \\ + 8276 \end{array}$	$\begin{array}{r} - 29.3x \\ - 5810 \\ - 601 \\ - 857 \\ - 399 \\ - 691 \end{array}$	$\begin{array}{r} + 25y \\ + 27 \\ + 662 \\ + 23 \\ + 3.4 \\ + 41 \end{array}$	$\begin{array}{r} - 8607 \\ + 8611 \\ 8543 + 662 = 8609 + 2 \\ 8581 + 23 = 8604 - 3 \\ 8571 + 3.4 = 8605 - 2 \\ 16.4551 \\ 16.4548 \end{array}$
---	--	--	--	---

Tables = $a = -0.3$ $e = -1.3$ $a + e = +1.0$ $b + d = 0$
 lets $= -504.4$ $= -502.5$ $= -1.9$ $= -1.3$
 0 - c -504.1 -501.2 -2.9 -1.3

-0.3

13671

Plate center and constants

13

x	y				
19.8090	10.7778	1.39	48.38	+1.3	51.52.7
20.4793	26.3581				
<u>29.0336</u>	<u>9.1650</u>				

+2.1910	+7.2252	+1	13.2	+	59	0.2
<u>33.9</u>	<u>990</u>	1.36	01.8	14	50	52.9

+73.2	59° 0.25
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9) 13.6179	13.5165
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center

A	1	36	40
D	+14	51	00.

$x-3$	+500A	+30.64	+44X	-1388
+35.77	+9904	=+13478	+330	=+13808.88
+27.57	+10290	=12997	+807	=13804.90
-10.91	+14517	=13476	+281	=13757+128=13885
+66.01	+6809	=13905	+414	=13827+160=13887
23.5726	+11786	+506"	+109	23.7233
23.5723				23.7230

$y-11$	+500Y	-29.3K	+254	-860
+37.77	+5387	=+9164	-580	=+8584
-90.35	+13179	=9044	-604	=8543
+48.50	+4582	=9432	-867	=8581
+22.12	+6758	=8970	-399	=8571
16.5531	+8276	-691"	+91"	16.7557
16.5529				16.7548

Tables = $a = -0.3$ $e = -1.3$ $a+e = +1.0$ $b+d = 0$
 $b+e = -507.4 = -502.5$ $= -1.9$ $= -1.3$

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13671

Moon's Center

17

	X	X-X ₀	ΔX	(X-X ₀) ²	(X-X ₀)+(Y-Y ₀)	D-C
1	25.0000	+1.4290	-0	2.0420	4.1727	+1.15
2	25.5387	+1.9677	-0	3.8718	4.1776	+1.64
3	25.6115	+2.0405	0	4.1636	4.1636	+2.4
4	25.5625	+1.9915	+0	3.9661	4.1659	+4.7
5	25.0000	+1.4290	+0	2.0420	4.1616	+4
6	24.0000	+0.4290	+1	0.1841	4.1601	-1.1
7	23.5710	+0.0000	+1	0.0000	4.1730	+1.18
8	23.0000	-0.5710	+1	0.3261	4.1759	+1.47

$$R = (4.1612)$$

4.1624 Corr'd

	Y	Y-Y ₀	ΔY	(Y-Y ₀) ²	L	
1	15.0937	-1.4696	-1	2.1307	136	✓
2	16.0000	-0.5530	-0	0.3058	106	✓
3	16.5530	0.0000	0	0.0000	90	
4	17.0000	+0.4470	+0	0.1998	77	
5	18.0098	+1.4558	+1	2.1196	44	
6	18.5469	+1.9939	+1	3.9760	12	
7	+18.5957	+2.0427	+1	4.1730	0	
8	18.5150	+1.9620	+1	3.8498	344	152

Approx. Center

$$X = 25 \quad Y = 15.0937$$

$$18.0098$$

$$33.1032$$

$$Y_0 = 16.5516$$

$$Y_{\max} = 18.5957$$

$$R = 2.0441$$

$$2.0399$$

$$X_{\max} = 25.6115$$

$$X_0 = 23.5715$$

$$\begin{cases} X_0 = 23.5710 \\ Y_0 = 16.5530 \end{cases}$$

$$A = +.3$$

$$B = +.7$$

691

Moon's Center

17

	X	X-X ₀	ΔX	(X-X ₀) ²	(X-X ₀)+(Y-Y ₀)	D-C
1	25.0000	+1.4290	-0	2.0420	4.1727	+115
2	25.5387	+1.9677	-0	3.8718	4.1776	+164
3	25.6115	+2.0405	0	4.1636	4.1436	+24
4	25.5625	+1.9915	+0	3.9661	4.1659	+77
5	25.0000	+1.4290	+0	2.0420	4.1616	+7
6	24.0000	+0.4290	+1	0.1841	4.1601	+11
7	23.5710	+0.0000	+1	0.0000	4.1730	+118
8	23.0000	-0.5710	+1	0.3261	4.1759	+147

$$K = (4.1612)$$

4.1629 corr'd

	Y	Y-Y ₀	ΔY	(Y-Y ₀) ²	
1	15.0937	-1.9576	-1	2.1307	136 ✓
2	16.0000	-0.5530	-0	0.3058	106 ✓
3	16.5530	0.0000	0	0.0000	90
4	17.0000	+0.9470	+0	0.1998	77
5	18.0098	+1.9558	+1	2.1196	74
6	18.5469	+1.9939	+1	3.9760	12
7	18.5957	+2.0427	+1	4.1730	0
8	18.5150	+1.9620	+1	3.8498	344

Approx. Center

$$X = 25 \quad Y = 15.0937$$

$$18.0098$$

$$33.1032$$

$$Y_0 = 16.5516$$

$$Y_{max} = 18.5957$$

$$K = 2.0941$$

$$2.0399$$

$$X_{max} = 25.6115$$

$$X_0 = 23.5715$$

$$\begin{cases} X_0 = 23.5710 \\ Y_0 = 16.5530 \end{cases}$$

$$A = +.3$$

$$B = +.7$$

Formation of Normals.

1	- 209	+ 167.5	- 1680
2	- 108	+ 323.0	- 900
3	000	+ 240	00
4	+ 089	+ 93.5	+ 220
5	+ 208	+ 57	+ 58
6	+ 086	- 47	- 220
7	000	00	+ 240.5
8	- 112	- 83.5	+ 290
	+ 383	+ 610.7	+ 297.3
	- 429	- 88.2	- 2800
	- 0.76	+ 522.3	+ 17.3
		- 107.8	- 70.6
		+ 417.7	- 53.3

15671

Conditional Equations

15-

 $-12 = \text{err}$

								$0-C$	$0-C$
1	+ 1.73	- 1.76	= + 115	+ 36	+ 4	= + 40	+ 73	+ 63	
2	+ 1.97	- 0.55	= + 167	+ 50	+ 1	= + 51	+ 113	+ 101	
3	+ 2.07	0.00	= + 27	+ 51	0	= + 51	- 27	- 39	
4	+ 1.97	+ 0.45	= + 77	+ 50	- 1	= + 49	- 12	- 14	
5	+ 1.73	+ 1.75	= + 7	+ 36	- 4	= + 32	- 28	- 40	
6	+ 0.73	+ 1.99	= - 11	+ 11	- 5	= + 6	- 17	- 27	
7	+ 0.00	+ 2.07	= + 118	0	- 5	= - 5	+ 123	+ 111	
8	- 0.57	+ 1.96	= + 177	- 17	- 5	= - 19	+ 226	+ 214	
	+ 8.72	+ 5.88							

$$16.59 - 0.76 = + 522.5 - + 417.7$$

$$+ 537 + 484$$

$$- 77 - 122$$

$$- 0.76 + 16.75 = + 17.3 - 53.3$$

$$+ L3 - .01 = + 17.5 + 11.6$$

$$+ 16.77 = + 31.8 = - 41.7 \quad b = + 7.9 = - 2.5$$

$$16.59 = + 522.5 + 0.9 = + 523.4 \quad a = + 31.5 = + 25.2$$

$$= + 417.7 + 1.1 = + 416.6$$

arc 152

$$\frac{P}{m} = .17$$

$$\frac{\sum V}{m} = + 46$$

$$\frac{+ 46}{.17} = + 270$$

$$AR = + 3.3$$

13671

Conditional Equations

13-

~~-12 = 0~~

1	+ 1.73	- 1.76	= + 115	+ 36	+ 4	= + 90	+ 73	+ 63
2	+ 1.97	- 0.55	= + 169	+ 50	+ 1	= + 51	+ 113	+ 101
3	+ 2.09	0.00	= + 29	+ 51	0	= + 51	+ 27	- 39
4	+ 1.97	+ 0.43	= + 97	+ 50	- 1	= + 49	+ 121	- 14
5	+ 1.43	+ 1.45	= + 9	+ 36	- 4	= + 32	+ 28	- 40
6	+ 0.43	+ 1.79	= - 11	+ 11	- 5	= + 6	- 17	- 29
7	+ 0.00	+ 2.09	= + 118	0	- 5	= + 5	+ 123	+ 111
8	- 0.57	+ 1.96	= + 197	- 19	+ 5	= - 19	+ 226	+ 214
	+ 8.72	+ 5.88						

$$16.59 - 0.46 = + 522.5 - + 417.1$$

$$+ 587 + 484$$

$$- 17 - 122$$

$$- 0.46 + 16.75 = + 17.3 - 53.3$$

$$+ 23 - .01 = + 17.3 + 11.6$$

$$+ 16.77 = + 31.8 = - 41.7 \quad b = + 1.9 = - 2.5$$

$$16.59 = + 522.5 + 0.9 = + 523.4 \quad a = + 31.9 = + 25.2$$

$$= + 417.7 + 1.1 = + 416.6$$

Arc 1.52

$$\frac{P}{m} = .17$$

$$\frac{\Sigma V}{m} = + 46$$

$$\frac{+ 46}{.17} = + 270$$

$$AR = + 9.3$$

13671 Moon's Mean Position

16

$$X_0 = 23.5710''$$

$$+16 +15''$$

$$23.5726''$$

$$23.5723''$$

From Plate

$$X = 23.4233''$$

$$Z = +1.4233''$$

$$\log Z = 0.15329''$$

$$\cos Z = 998365''$$

$$8.50727''$$

$$1.66040''$$

$$Y_0 = 16.5530''$$

$$+1 -1$$

$$16.5531''$$

$$16.5529''$$

Constants

$$Y = 16.4551''$$

$$\eta = 1.5949''$$

$$\log \tan \delta = 9.4173''$$

$$Z = 0.3066''$$

$$7.0537''$$

$$6.7773''$$

$$q = A + 45.75''$$

$$\eta_1 = +0.0006''$$

$$A = 13610.00''$$

$$\eta_0 = -15455''$$

$$q_0 = 13635.75''$$

$$\log h = 0.18907''$$

$$7.03115''$$

$$\text{Red} + 4.70''$$

$$2.85782'' = -721.0''$$

$$q' = 13700.45''$$

$$\delta - D = -1201.0''$$

$$D = +143100.0''$$

$$\delta_0 = +143859.0''$$

$$\text{Red} + 26.9''$$

$$\delta' = +143925.9''$$

3691 Moon's Mean Position

16

$$X_0 = 23.5710''$$

$$+16 +13''$$

$$23.5726$$

$$23.5723$$

From Plate

$$X = 23.9233''$$

$$Y = +1.4233''$$

$$\log Z = 0.15329''$$

$$\log 1 = 998.565''$$

$$8.50729''$$

$$1.66040''$$

$$Y_0 = 16.5530''$$

$$+1 -1$$

$$16.5531$$

$$16.5529$$

Constants

$$Y = 16.9531''$$

$$\eta = 1.5949''$$

$$\log \tan \delta = 9.9173''$$

$$3 = 20.3066''$$

$$7.0539''$$

$$6.7773''$$

$$d = A$$

$$F 95.75''$$

$$h_1 = +0.0006''$$

$$A = 1.36 \quad 10.00''$$

$$h_0 = -1.2455''$$

$$Y_0 = 1.36 \quad 55.75''$$

$$\log 4 = 0.189074''$$

$$7.22115''$$

$$Red = +9.70''$$

$$2.837824 = -721.0''$$

$$Y' = 1.37 \quad 00.45''$$

$$\delta = D = -12 \quad 01.0''$$

$$D = +17 \quad 51 \quad 00.0''$$

$$d_0 = +17 \quad 38 \quad 59.0''$$

$$Red = +26.9''$$

$$\delta' = +17 \quad 39 \quad 25.9''$$

$$\begin{array}{r}
 1 \quad 27 \quad 07.03 \\
 \quad \quad 2.37 \\
 \hline
 \quad \quad + 7.69
 \end{array}$$

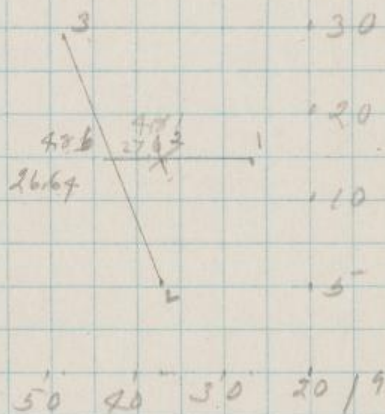
$$\begin{array}{r}
 + 17 \quad 55 \quad 33.35 \\
 \quad \quad 6.06 \\
 \hline
 \quad \quad + 27.29
 \end{array}$$

$$\begin{array}{r}
 1 \quad 37 \quad 11.18 \\
 \quad \quad 6.62 \\
 \hline
 \quad \quad + 7.56
 \end{array}$$

$$\begin{array}{r}
 + 5 \quad 07 \quad 32.86 \\
 \quad \quad 7.95 \\
 \hline
 \quad \quad + 27.91
 \end{array}$$

$$\begin{array}{r}
 1 \quad 48 \quad 25.88 \\
 \quad \quad 20.75 \\
 \hline
 \quad \quad + 5.13
 \end{array}$$

$$\begin{array}{r}
 29 \quad 10 \quad 55.62 \\
 \quad \quad 30.12 \\
 \hline
 \quad \quad + 25.50
 \end{array}$$



13691 Reduction To Apparent Place.

17

$$\begin{aligned}
 &= 105^\circ 0' \\
 H + \lambda & 7 \quad 00.0'' \\
 H & 5 \quad 23.1'' \\
 q & 1 \quad 36.9'' \\
 G & 23 \quad 43.1'' \\
 G + q & 1 \quad 20.0'' \\
 &= 20^\circ 00.0''
 \end{aligned}$$

$$\begin{aligned}
 &\text{Oct 1} \quad 24'' \\
 &\delta + 19 \quad 39''
 \end{aligned}$$

$$\begin{aligned}
 \log \cos & 99856'' \\
 \log \sin & +09062'' \\
 & (L) 08918''
 \end{aligned}$$

$$\begin{aligned}
 \log \cos (G+q) & 9.9730'' \\
 \log \sin & 1.3357'' \\
 \log \cos & 9.5370'' \\
 \log \tan \delta & 9.4173'' \\
 & 8.8239
 \end{aligned}$$

$$\begin{aligned}
 \log \sin \delta & 9.7030'' \\
 \log \cos (H+\lambda) & 9.4130'' \\
 \log \sin & 1.2746'' \\
 \log \cos & 9.9879'' \\
 \log \sec \delta & 0.0147'' \\
 & 8.8239
 \end{aligned}$$

$$\begin{aligned}
 \log g' & 1.3087'' \\
 \log g & 9.1169''
 \end{aligned}$$

$$\begin{aligned}
 \log h & 10.0906'' \\
 \log h & 0.0978''
 \end{aligned}$$

$$\begin{aligned}
 f & + 3.323'' \\
 g & + 0.129'' \\
 h & + 1.252'' \\
 & + 4.704''
 \end{aligned}$$

$$\begin{aligned}
 g' & + 20.36'' \\
 h' & - 1.232'' \\
 i' & + 7.795'' \\
 & + 26.923''
 \end{aligned}$$

See 13695.
same name

Reduction			To Apparent Place	
= 105° 0'			Oct 1	24
H + h	7	00.0"	+ 19	39
H	5	23.1"		
i	1	36.9"	log cos	99856
G	23	43.1"	+ 0.9062	
G + h	1	20.0"	(L) 0.8918	
= 200 00.0"				

log cos (G+h)	9.9730
" g	1.3357
" sin "	9.5390
" tan d	9.4173
	8.8239

log sin d	9.9030
" cos (H+h)	9.9130
" h	1.2796
" sin "	9.9849
" sec d	0.0147
	8.8239

log g'	1.3087
" g	9.1169

log h	10.0906
" h	0.0978

f	+ 3.323
g	+ 0.129
h	+ 1.252
	+ 4.704

g'	+ 20.36
h'	- 1.232
i	+ 7.795
	+ 26.923

13641

Lunar

Parallax

18

δ 1 37 00.75^v
 δ 2 17 32.66^v
 $\delta - \delta' + 0$ 37 32.20^v
 $= + 9$ 23 3.00^v
 $\delta (1-11)$ 3 7.597^v
 $\delta + 9$ 19 17.56^v

π 60 08.5^v

9.86913^v
 8.24298^v
 9.21232^v
 0.01530^v

 7.33983^v

9.95727^v
 0.00000^v
 0.00577^v

 9.96304^v

$\delta - \delta'$ + 7' 30.88^v
 $=$ + 0" 30.06^v

γ 42 33 53.2^v

δ 4.17 39 25.9^v

$\gamma - \delta$ + 27 54 27.3^v

9.82640^v
 8.24298^v
 9.67030^v
 0.16978^v
 7.90946^v

- .1 corr p13

$\delta - \delta'$ + 27 54.5^v

- .01 corr p13

δ + 15 07 20.3^v

γ 1 37 30.52^v

Eph δ + 15 07 17.0^v

Eph γ 1 37 29.59^v

O-C

+ 3.3^v

O-C

+ 0.91

2nd Quad. Ref.

0:0

Curr.

- 0.02^v

Curr.

+ 0.4^v

$\alpha = 1$

37

30.48

δ

+ 15

07

20.7

O-C

+ 0.89

O-C

+ 3.7

3641

Lunar

Parallax

13

α 1 37 00.95"
 δ 2 17 32.60"
 $\delta - \alpha + 0$ 37 32.20"
 $= +9$ 23 3.00"
 $\alpha - \delta$ 3 75.99"
 $\alpha + 9$ 19 17.56"

τ 60 08.5"
 9.86913
 8.24288
 9.21232
 0.01530
 7.33963

9.95727
 0.00000
 0.00577
 9.96304

$\alpha - \delta + 7' 30.88$
 $= + 0' 30.06$

α 42 33 53.2"
 $\delta + 19$ 39 25.9"
 $\alpha - \delta + 27$ 54 27.3"

9.82640
 8.24288
 9.67030
 0.16978
 7.90946

- .1 Comp 13

$\delta - \alpha + 27$ 54.5"

- .01 Comp 13

$\delta + 15' 07$ 20.3"

τ 1 37 30.50"

Ephs $+15' 07$ 17.0" Eph 1 37 29.59"

O-C $+3.3$ O-C $+0.91$

2nd Aul Ref 0.0 Curv. - 0.02

Curv. $+0.4$ $\alpha - 1$ 37 30.48

$\delta + 15' 07$ 20.7 O-C $+0.89$

O-C $+3.7$

13672		Star Measures		Eris		20
L	d	L	d	L	d	
19.5	19862	19600	20150	17960		
10.7	14330	15129	12952	15157	50	
	30	2728	52	50		
	62	02	46	66		
	<u>19.5532</u>	<u>19.5526</u>	<u>10.7195</u>	<u>10.7188</u>		
2	19742	20174	20180	20312		
20.2	17390	12529	17160	13330	28	
26.4	8286	2326	60	2628		
	50	62	82	18		
	<u>20.2358</u>	<u>20.2362</u>	<u>26.3020</u>	<u>26.3012</u>		
3	20072	17714	18703	19868		
28.8	12288	15508	17690	10886	83	
9.1	9089	1612	8688	80		
	69	20		70		
	<u>28.7781</u>	<u>28.7797</u>	<u>9.1015</u>	<u>9.1013</u>		

		Moon Measures			
L	d	L	d	L	d
15.5	19189	18799		19304	
15.5	19970	13016	20649	13232	29
10	70	02	16700	2629	
	86	808	00	02	
	<u>25.4218</u>	<u>25.4206</u>	<u>15.3975</u>	<u>15.3927</u>	
2	20040	18780			
15.9	11700	17108			
16	98	1210			
	46	86			
	<u>25.8346</u>	<u>25.8329</u>			
3	13570				
26.3	13522	14300			
16.9	1820	97297			
4X		17251			
	<u>26.0050</u>	<u>26.0046</u>			

13692

Star Measures

<u>1</u>	<u>d</u>	<u>r</u>	<u>d</u>	<u>r</u>
19.5	19862	19600	20150	17960
10.7	19330	15129	12952	15151
	30	2728	52	50
	62	02	46	66
	<u>19.5532</u>	<u>19.5526</u>	<u>10.7195</u>	<u>10.7188</u>
<u>2</u>	19742	20108	20180	20312
20.2	17390	12529	17160	13330
26.4	8286	2326	50	2628
	50	62	82	18
	<u>20.2358</u>	<u>20.2362</u>	<u>26.3020</u>	<u>26.3012</u>
<u>3</u>	20072	17714	18703	19868
28.8	12288	12508	17690	10886
9.1	9089	1612	8688	8083
	69	20		70
	<u>28.7781</u>	<u>28.7797</u>	<u>9.1015</u>	<u>9.1013</u>

Moon Measures

<u>1</u>	<u>d</u>	<u>r</u>	<u>d</u>	<u>r</u>
19.5	19189	18799	20649	19304
15.3	19970	13016	16700	13232
00	70	02	00	29
	86	808	39	02
	<u>25.9218</u>	<u>25.9206</u>	<u>15.3995</u>	<u>15.3927</u>
<u>2</u>	20090	18780		
25.9	11700	17108		
16	98	1210		
	46	86		
	<u>25.8396</u>	<u>25.8329</u>		
<u>3</u>	13570	14300		
26.1	13522	97297		
16.9	1820	19251		
+X	<u>26.0050</u>	<u>26.0046</u>		

Moon Measures

21

4

25.9

16.0

18988

9022²¹

20

82

25.9961

18986

12672

6970

81

25.6313

19041

19008.99

990.99

44

25.9958

20699

17018.24

3024

701

25.63236

24.0

18.6

19890

19100

100

890

18.5790

18436

17276

3671

36

18.58057

29.0

18.7

+4

19866

11242

40

860

18.8620

17439

16060

60

39

18.86218

23.0

18.6

19860

13632

4738

60

18.6222

20220

16718.13

08

20

18.6193

Moon Measures

21

4

25.9

16.0

18988

90221

2021

82

25.9961

18986

12672

6970

81

25.6313

19041

19008

990.99

49

25.9958

20699

17018

29

30

701

25.63236

25.0

18.6

19890

19100

100

890

18.5790

18936

19296

3691

36

18.58057

29.0?

18.7

+4

19866

11292

40

860

18.8620

17939

16060

60

39

18.86218

28.0

18.6

19860

13632

4438

60.

18.6222

20220

16918

081

20

18.6193

13642 Times Etc 22
 Date Oct 1
 Exp. to Stars 2 21 2 33
 " " Moon 2 27 15.0 2 27 15.3
 Clock slow 0 46.7

H. Sid Time 2 28 01.85" $\phi - \alpha = +0^h 7^m 9^s$
 H. Long 4 14 31.05"
 G. Sid T. 7 12 32.90"
 Sid L M. Noon 12 38 35.26"
 Interval 18 33 57.64"
 Reduction 3 02.49"
 G. M. T. 18 30 55.15"

From Hanklin N. 9. Place
 Moon 18h 1 36 47.91" +15 03 43.9"
 Motion 2.3862" 12.189"
 " " 30.9.192 1 13.78 16 16.9"
 Tabular Place 1 38 01.69" +15 10 00.8"

Moon's Age 16 days
 Parallax 60 08.12"
 Semid 16 27.6"
 R 984.6"
 Aug 15.2"
 RV 5 - 0.3"
 R 999.5"
 R 2.1725"
 AR - 1026"
 (1+4)R 2.0399"
 R 7.1612"

$$934 = 13.65 +$$

$$\begin{array}{r} a = -5028 \\ + 24 \\ \hline - 478.8 \end{array}$$

13692 Times Etc 22
 Date Oct 1
 Exp. to stars 2 21 2 33
 " Moon 2 27 15:0 2 27 15:3
 Clock slow 0 76.7"

H. fed time 2 28 07.85" 4 - 1 = +0" 7 9"
 H. Long 4 74 31.05"
 G. fed T. 3 12 32.70"
 fed J. M. Noon 12 38 35.26"
 Interval 18 33 57.64"
 Reduction 3 02.99"
 G. M. T. 18 30 55.15"

From Hunt obs. H. 4. Place
 Moon 18h 1 36 77.91" +15 03 73.9"
 Motion mi 2.34802 12.189"
 " " 30921932 01 313.78 16 16.9"
 Tabular Place 1 38 01.69" +15 10 00.8"

Moon's Age 16 days
 Parallel 60.08.12
 Semi d. 16 29.6
 R 989.6
 Aug 15.2
 R 5 - 0.3
 R 1999.5
 R 2.1425"
 GR -1026"
 (1+9)R 2.039.8"
 R 71612

$$934 = 13.65 +$$

$$\begin{array}{r} a = -5025 \\ + 24 \\ \hline - 478.8 \end{array}$$

0 50

14 51

13692. Plate Constants

23

X	19.5529	20.2360	28.7789
Y	19.4516	20.2036	29.1377
X-Y	+1013	+324	-3588

Y	10.7191	26.3016	9.1017
Y	10.3971	26.7616	8.6800
Y-Y	+3220	-4600	+7217

X-Y	+500X	+22.24	+2.8X	-11082			
+1013	+9776	= +10789	+238	= +11027	+55	= +11082	0
+324	+10118	= 10442	+583	= 11025	+57	=	82 0
-3588	+14389	= 10801	+202	= 11003	+80	=	83 +1
23.9645	+11982	+373	+64				24.0983
							24.0983

Y-Y	+500Y	-19.5X	+2.8Y	-8229			
+3220	+5360	= +8580	-381	= +8199	+30	= +8229	0
-4600	+13157	= 8557	-395	= 8156	+74	= 8230	+1
+7217	+4331	= 8763	-561	= 8207	+25	= 8229	0
16.8219	+8411	-767	+47				16.7980
							16.7981

Table a = -0.3 e = -1.5 a-e = +1.2 b+d: 0
 aka = -502.8 - -502.8 = 0 = -2.7
 -502.5 - 501.3 - 1.2 - 2.7

-0.3

13692. Plate Constants

23

1	19.55 29	20.23 60	28.77 89
3	19.45 16	20.20 36	29.13 77
X-7	+ 10 13	+ 3 29	- 3 58 8

7	10.71 91	26.30 16	9.10 17
4	10.39 71	26.76 16	8.68 00
7-4	+ 3 22 0	- 4 6 0 0	+ 9 2 1 7

X-7	+500X	+22.24	+2.8X	-11082
+1013	+9774	= +10789 + 238	= +11027 + 55	= +11082 0
+329	+10118	= 10792 + 383	= 11025 + 57	= 82 0
-3588	+19389	= 10801 + 202	= 11003 + 80	= 82 +1
23.9645	+11982	+373	+65	24.0983

7-4	+500Y	-185X	+2.8Y	-8229
+3220	+5360	= +8580 - 381	= +8199 + 30	= +8229 0
-9600	+13151	= 8551 - 395	= 8156 + 74	= 8230 +1
+9217	+4551	= 8765 - 561	= 8204 + 25	= 8229 0
16.8219	+8911	-467	+46	16.7980

Table a = -0.3 e = -1.5 a-e = +1.2 b+d: 0
 (b) = -502.8 - -502.8 = 0 = -2.7

-0.3

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13642

Myosotis Center

2x

	X	X-X ₀	2X	(X-X ₀) ²	(X-X ₀) + (Y-Y ₀)	δ-c
1	25.4212	+1.4572	-0	2.1237	4.1621	-20
2	25.8337	+1.8697	-0	3.4938	4.1700	+5.9
3	+26.0048	+2.0408	0	4.1649	4.1649	+8
4	25.9959	+2.0319	+0	4.1286	4.1606	-35
5	25.6318	+1.6678	+0	2.7825	4.1727	+86
6	25.0000	+1.0360	+1	1.0735	4.1669	+28
7	23.9670	0.0000	+1	0.0000	4.1661	+20
8	23.0000	-0.9670	+1	0.9291	4.1687	+93

$$R = (4.1671)$$

$$= 4.1612$$

	Y	Y-Y ₀	2Y	(Y-Y ₀) ²	✓
1	15.3936	-1.7274	-1	2.0377	134
2	16.0000	-0.8210	-1	0.6742	114
3	16.8210	0.0000	0	0.0000	90
4	17.0000	+0.1790	+0	0.0320	85
5	18.0000	+1.1790	+1	1.3902	55
6	18.5797	+1.7587	+1	3.0934	30
7	+18.8620	+2.0410	+1	4.1661	0
8	18.6207	+1.7997	+1	3.2393	332

162

Approx Center

X max	26.0048
R	2.0906
Y ₀	23.9672
Y max	18.8620
R	2.0406
Y ₀	16.8214

$$\begin{cases} X_0 = 23.9670 \\ Y_0 = 16.8210 \end{cases}$$

$$A_2 = +0.3$$

$$B_2 = +0.7$$

13642

Micon's Center

27

	x	$x - x_0$	$2x$	$(x - x_0)^2$	$(x - x_0) + (y - y_0)^2$	$\delta - c$
1	25.4212	+14.572	-0	212.34	41621	-20
2	25.7337	+18.697	-0	349.58	41700	+59
3	+26.0048	+20.908	0	436.49	41649	+18
4	25.9959	+20.319	+0	412.88	41606	-35
5	25.6318	+16.678	+0	278.25	41727	+86
6	25.0000	+1.0360	+1	1.0733	41669	+28
7	23.9640	00000	+1	0.0000	41661	+20
8	23.0000	-0.9640	+1	0.9291	41688	+73

$$R = (4.1671) \\ = 4.1612$$

	y	$y - y_0$	$2y$	$(y - y_0)^2$	c
1	15.3936	-19.294	-1	371.277	134
2	16.0000	-0.8210	-1	0.6742	114
3	16.8210	0.0000	0	0.0000	90
4	17.0000	+0.1790	+0	0.0320	85
5	18.0000	+1.1790	+1	1.3902	55
6	18.5797	+1.7587	+1	3.0734	30
7	+18.8620	+2.0410	+1	4.1661	0
8	18.6207	+1.7997	+1	3.2393	332

Approx Center

 $x = 16$ $x_{map} = 26.0048$ $R = 12.0406$ $y_0 = 23.9642$ $y_{map} = 18.8620$ $R = 2.0406$ $y_0 = 16.8210$

$$\begin{cases} x_0 = 23.9640 \\ y_0 = 16.8210 \end{cases}$$

 $A = +0.3$ $B = +0.7$

Formation of Normals.

1	- 2.09	- 292	+ 286
2	- 1.53	+ 110.5	- 78.5
3	0.	+ 16.3	0.
4	+ 0.36	- 71.0	- 6.3
5	+ 1.97	+ 183.5	+ 101.5
6	+ 1.83	+ 29.0	+ 49.3
7	0.	0.	+ 40.8
8	- 1.73	- 41.5	+ 77.5
	+ 4.16	+ 299.3	+ 294.7
	- 5.33	- 141.7	- 54.8
	- 1.19	+ 157.6	+ 242.9
		+ 265.7	+ 136.5
		+ 423.0	379.4

Corr = +29.

$$1 + 1.76 - 1.73 = -20$$

$$2 + 1.87 - 0.82 = +3.9$$

$$3 + 2,040.00 = +8$$

$$4 + 2.03 + 0.18 = -39'$$

$$+167 + 118 = +86$$

$$6 + 1.08 + 1.76 = 7.28$$

$$7 \quad 0.00 + 2.09 = +2.09$$

$$8 - 0.96 + 1.80 = + 2.3$$

+9 15 +4 71

$$+15^{\circ} - 40^{\circ} = -25^{\circ}$$

$$+ 20 - 23 = -3$$

$$+ 22 \quad 0 = + 22$$

$$+ 22 + 5 = +27$$

$$+ 18 + 33 = + 51$$

$$+ 11 + 49 = + 38$$

$$0 + 57 = +57$$

$$-10 + 50 = +40$$

5. 0 0-2

$+3^{-}$ $+34$

$$+62 + 91$$

$$-17 + 15$$

- 62 - 33

$+ 3.5 + 64$

$$-10 + 19$$

$$-37 - 8$$

$31 + 32$

$+ 105^{\circ} + 25^{\circ}$

$$-123 - 41$$

$$18,69 - 1,19 = +15\cancel{7,6} + 423,0$$

$$-1,19 + 14,63 = +2,44 + 379,4$$

$$+ \Sigma 7 - 0,08 = + \cancel{10,1} + 27,0$$

$$+ 17.55 = +253.0 + 406.7 \text{ b} = +18.7 + 28$$

$$18.69 = +157.6 + \cancel{20.7} = +178.3 \quad a = + \cancel{9.6} + 10.6$$

$$+70 = +197.6$$

arc 162

$$\frac{P}{n} = .24 \checkmark$$

$$\frac{\sum v}{n} = +2.7$$

$$\begin{array}{r} + 27 \\ \hline 24 \end{array} = + 112$$

$$\Delta R = +1.4$$

13642 Conditional Equations

Cor = +29

1 + 1.76 - 1.73 = -20

2 + 1.87 - 0.82 = +59

3 + 2.09 0.00 = +8

4 + 2.03 + 0.18 = -35

5 + 1.67 + 1.18 = +86

6 + 1.09 + 1.76 = +28

7 0.00 + 2.09 = +20

8 + 0.96 + 1.80 = +93

1.1 = +1.11

+13 - 90 = -23

+20 - 23 = +3

+22 0 = +22

+22 + 35 = +27

+18 + 33 = +51

+11 + 49 = +38

0 + 57 = +57

-10 + 20 = +10

25
0.0 0-0

+3 +34

+62 +91

-119 +15

-62 -33

+35 +64

-10 +19

-39 -8

+31 +32

+255

-41

18.69 - 1.19 = +157.6 +423.0

-1.19 + 18.63 = +12.72.9 +379.9

+2] - 0.08 = +10.1 +27.0

+19.55 = +253.0 +406.4 6 = +18.9 +28

18.69 = +157.6 +247 = +174.3 2 = +16 +10.6
+90 = +197.6

Arc 162

$\frac{P}{m} = .24$

$\frac{\Sigma K}{m} = \# 27$

$\frac{+27}{.24} = +112$

$\Delta R = +1.4$

13642 Moon's Mean Position

26

$$\begin{aligned}
 X_0 & 23.9640'' \\
 & +5 \\
 & 23.9645'' \text{ Corr} = 0
 \end{aligned}$$

$$\begin{aligned}
 Y_0 & 16.8210'' \\
 & +8 +18 \\
 & 16.8219'' \text{ Corr} = +5 \\
 & 16.8224''
 \end{aligned}$$

From Plate Constants.

$$X \quad 24.0983''$$

$$Y \quad 16.7980''$$

$$Z \quad +2.0983''$$

$$h \quad -1.2020''$$

$$\begin{aligned}
 \log 30.32187'' \\
 \cos 9985.56'' \\
 850727'' \\
 1.82907''
 \end{aligned}$$

$$\begin{aligned}
 \log \tan \delta \quad 9.7184'' \\
 \log \tan \delta \quad 0.6738'' \\
 7.0539'' \\
 7.1156''
 \end{aligned}$$

$$q = A \quad 67.76''$$

$$\begin{aligned}
 h \quad +0.0013'' \\
 h_0 \quad -1.2033''
 \end{aligned}$$

$$A \quad 1 \quad 3 \quad 6 \quad 10.00''$$

$$\begin{aligned}
 \log h_0 \quad 0.08038'' \\
 7.33115'' \\
 2.74923'' = -561.3''
 \end{aligned}$$

$$Z_0 \quad 1 \quad 3 \quad 7 \quad 17.76''$$

$$\text{Red} \quad +4.70''$$

$$S-D \quad -9 \quad 21.3''$$

$$q' \quad 1 \quad 3 \quad 7 \quad 22.16''$$

$$D+14 \quad 51 \quad 00.0''$$

$$S_0+14 \quad 21 \quad 38.7''$$

$$\text{Red} \quad +26.9''$$

$$S' \quad 14 \quad 42 \quad 05.6''$$

$$\text{Corr} = +3''$$

$$+14 \quad 42 \quad 05.9''$$

3642 Moon's Mean Position

26

$$\begin{array}{r}
 x_0 \quad 23.9640 \\
 \quad \quad +5 \\
 23.9645 \quad \text{Corr} = 0
 \end{array}$$

$$\begin{array}{r}
 y_0 \quad 16.8210 \\
 \quad \quad +9 \quad 19 \\
 16.8219 \quad \text{Corr} = +0 \\
 16.8229
 \end{array}$$

From Plate Constants

$$x \quad 24.0983''$$

$$y \quad 16.7980''$$

$$z \quad +2.0983''$$

$$h \quad -12020''$$

$$\log 30.32187''$$

$$\cos 9.98356''$$

$$820729''$$

$$182907''$$

$$\log \tan 9.7184''$$

$$0.6438''$$

$$7.0534''$$

$$7.1156''$$

$$x - A$$

$$67.76''$$

$$h + 0.0013''$$

$$h_0 - 12033''$$

$$A \quad 1 \quad 36 \quad 10.00''$$

$$\log h_0 \quad 0.08038''$$

$$733.115''$$

$$x_0 \quad 1 \quad 37 \quad 17.76''$$

$$2.74923h = -561.$$

$$\text{Red}$$

$$+9.70''$$

$$D \quad -9 \quad 21.3''$$

$$x' \quad 1 \quad 37 \quad 22.16''$$

$$D + 14 \quad 51 \quad 00.0''$$

$$S_0 + 14 \quad 21 \quad 38.7''$$

$$\text{Red} \quad +26.9''$$

$$S' \quad 14 \quad 42 \quad 05.6''$$

$$\text{Corr} = +3''$$

$$+14 \quad 42 \quad 05.8''$$

13642 Lunar Parallax

α'	1	37	22.16"	"	60	08.72"
δ	2	28	01.85"			
$\delta - \alpha' + 0$		50	39.69"		9.86913"	
$= +12$		39	55.35"		8.24283"	
$\delta (1 - \alpha')$		5	3.19"		9.34095"	
δ	12	34	52.16"		0015452"	
					7.46836"	

9.95727"

0.00000

0.01056"

9.96783"

 $\delta - \alpha'$ +10 06.37"

= +0 40.42"

 γ 72 52 48.0" δ +14 72 05.9" $\gamma - \delta$ 28 10 42.4"

9.82640"

8.24283"

9.67714"

0.16720"

7.91057"

 $\delta - \alpha'$ +27 58.8" δ +15 10 04.7" α 1 38 02.58"

Ephd +15 10 00.8" Ephd 1 38 01.69"

O-C +3.9 O-C +0.89"

2nd Obs. Ref. 00 Curr -0.02"

Curr. +0.4" α 1 38 02.56 δ +15 10 05.1 O-C +0.87

O-C +4.3

642 Lunar Parallax

δ	1	37	22.16"	"	60	08.72"
ϵ	2	28	01.85"			
$\delta - \epsilon$	+0	80	39.69"			7.86913"
δ	+12	39	55.35"			8.27283"
$\delta - \epsilon$		5	3.19"			9.34095"
δ	12	34	52.16"			001540"
						7.96836"
			9.93727"			
			000000			
			0.01056"	$\delta - \epsilon$	+10	06.31"
			9.96783"	δ	+0	40.42"
δ	72	52	48.0"			
δ	+19	92	05.9"			
$\delta - \epsilon$	28	10	92.4"			
			9.8-2690"			
			8.27283"			
			9.67719"			
			0.16720"			
			7.91057"			
$\delta - \epsilon$	+27	58.8"				
δ	+15	10	09.7"	δ	1	38.0258"
$\delta - \epsilon$	+15	10	00.8"	$\delta - \epsilon$	1	38.0169"
$\delta - \epsilon$			+3.9	$\delta - \epsilon$		+0.89"
2nd Acl. Ref.		00		curr		-0.02
curr		+0.4		δ	1	38.0256
δ	+15	10	05.1	$\delta - \epsilon$		+0.87
$\delta - \epsilon$			-9.3			

