(1)

LUNAR DISTANCE CALCULATION FROM ALMANAC.

STAR: S.H.A. ° ′ } add
G.H.A. Aries ° ′
-360? °

date: 21-4-17 GMT

Previous Hour: 09

easier to add 360 if small. →

G.H.A.	378° 21.2			
G.H.A.	315° 19.9			
difference	63° 01.3	--->	K	0.56 356
Dec. (N. or S.?)	N 11° 58.5	-----> log Dec. ---->		0.00 955
Dec. (N. or S.?)	S 12° 50.4	-----> log Dec. ---->		0.01 099
difference	24° 48.9	K	1.33 568	0.58 410
			0.58 410	or 0.07 085 (subtract lesser)
F.R.S. (67°15.6) D#1	67° 15.6 ☒		0.75 158	0.51 325

STAR: S.H.A. ° ′ } add
G.H.A. Aries ° ′
-360? °

date: GMT

Following Hour: 10

G.H.A.	392° 51.4			
G.H.A.	330° 20.0			
difference	62° 31.4	--->	K	0.56 975
Dec. (N. or S.?)	N 11° 59.3	-----> log Dec. ---->		0.00 957
Dec. (N. or S.?)	S 12° 42.4	-----> log Dec. ---->		0.01 076
difference	24° 41.7	K	1.33 932	0.59 008
			0.59 008	or 0.07 112 (subtract lesser)
(66° 45.6) D#2	66° 45.7 ☒		0.74 976	0.51 896

D2 66 45.7 D 67 15.6
D1 67 15.6 67 15.6
D2 66 45.7 0.
29.9

Table

D ~ D#1 0′ 7 .
D#2 ~ D#1 . 7 .
8 .

min. sec.

(2) 21/4/17 FURCHURCH SIGHTS NO CLOCK

ACTUAL POSN 50° 7.2N 5° 32.6W

ASSUMED HOE 5' (don't know what Francis used)

	Hs SUN LL	Hs MOON LL
	33° 54.3	25° 0.0
Table 1	+ 13.7	Table 1 + 13.4
Sa / Ma	34° 08.0	25° 13.4
(subtract lesser)	25° 13.4	° .
Ma~Sa	8° 54.6	° .
	− 50.7	+ . (round)
H~H	8° 03.9	° .

from Almanac, the moon's H.P. = 56.8

Table 2	47.72	277.0
	1.63	10.2
Table 3	1.31	1.0
	50.66	288.2
		Q

	off +	on −
Index error	.	.
Instrument	.	.
Moon's Limb Near?	31.5	. or Far?
Ds (Sextant Distance)	67° 7.2	.
	°	.
		− .

Table 4	15.59
SUN ? 5	15.95 } add
	31.54
Low sun or moon? 6	−.02
(round)	31.52

Da	67° 38.7		
Ma~Sa	8° 54.6		
Da − (Ma~Sa)	58° 44.1	K	0.61 888
Da + (Ma~Sa)	76° 33.3	K	0.41 596 } add
			1.03 484
		half	0.51 742 } add
		Q	288.2
H~H	8° 03.9	K	2.30 581
			0.52 030 (round)
D	67° 15.6		0.00 706 (subtract lesser)
			0.51 324

CLEARED DISTANCE

checks with Frank's tool for 0900.

Makes t = 090000

(3) REDUCTION OF SUN/MOON SIGHTS USING LUNAR GMT

Using GMT = 090000

	SUN LL	MOON LL
H_S	33° 54.3	25° 0.0
dip	−2.3	−2.3
H_A	33 52.0	24° 57.7
corr	+ 14.6	+ 60.9
H_o	34°06.6	3.9
		26° 02.5
DEC	N 11 58.5	S 12 50.4
GHA	315 19.9	18 21.2
A LON	− 5 19.9	− 5 21.2
LHA	310 00.0	13 0.0
A. LAT	50°N	50°N.

HO 249

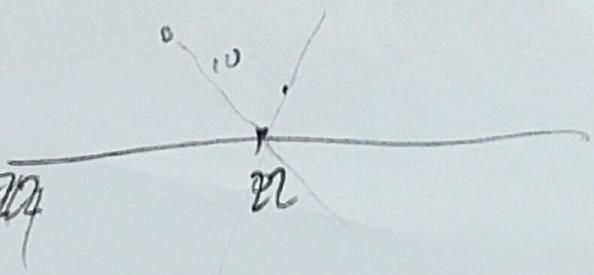
H_c	d	Z
33 29	49	116
48		Z_n
H_c 34°17		

H_c	d	Z
		360
26 58	−60	− 166
− 50		Z_n 194
H_c 26°08		

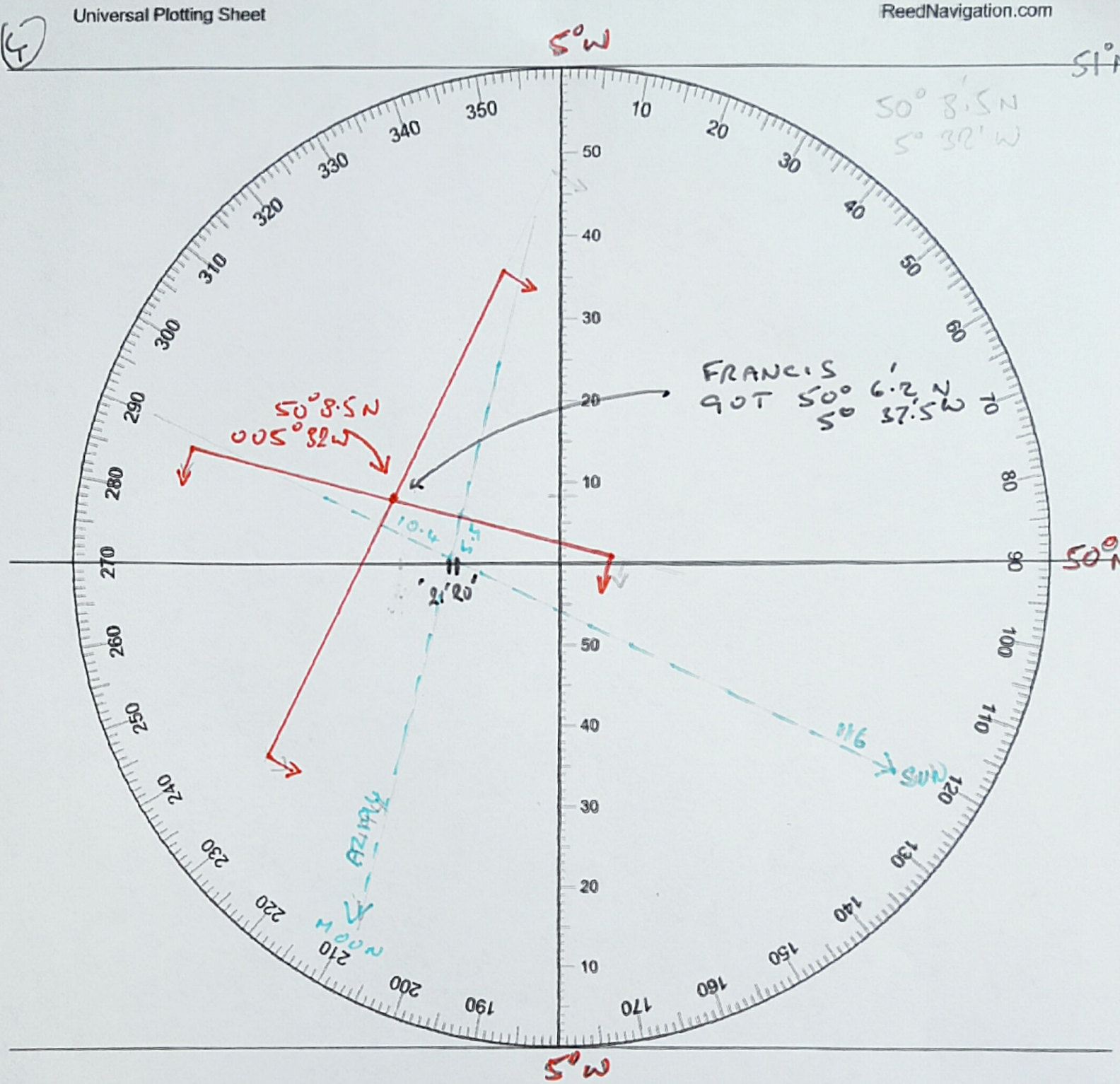
AP 50°N 5° 20′ W

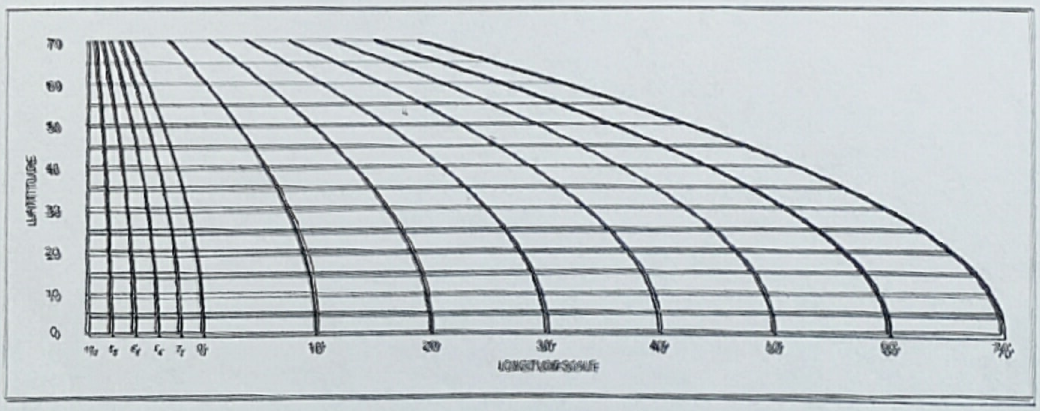
AP 50°N 5° 21′ W.

H_o	34 06.6	26 02.5
H_c	34 17	26 08
P	− 10.4	− 5.5



(4)


5°W
51°
50° 8.5N
5° 32'W
FRANCIS
GOT 50° 6.2'
5° 37.5'W
50° 8.5'N
005° 82°W
10.4
5.5
21'20"
116
SUN
AZIMUTH
MOON
50°
5°W


LATITUDE
LONGITUDE DIFFERENCE