

SPECIMEN COPY OF COMPUTATION OF ONE DAY'S

Computation of Longitude fr

At Kashghar (Yangi-Shahr) Station, on

Moon { West of Meridian. | Lat. N. = $\phi = 39^{\circ} 24' 32''$ | Assumed
 Lower Limb observed.

Ref. No.	No. of observation (Mean of F.L. and F.R.)	1	2	3
(1)	Chronometer Time of observation ...	10 47 55.2	10 52 31.3	10 57 26.2
(2)	Correction ... -	22 20.4	22 20.4	22 20.4
(3)	Local Mean Time (Ast. D.) = 28 days ... +	10 25 34.8	10 30 10.9	10 35 5.8
(4)	Approx. Gr. Mean Time = (3) + $L_1 = 28$ days ... +	5 20 34.8	5 25 10.9	5 30 5.8
(5)	ζ 's observed Zenith Distance ... = ζ_0	46 56 38	47 43 14	48 33 30
(6)	Refraction (for B and T) = r ... = +	57	59	1 0
(7)	ζ 's Semi-diameter at (4) from N. A. = S ... -	16 2	16 2	16 2
(8)	From Table I ΔS ... -	11	11	11
(9)	(5) + (6) + (7) + (8) ... = ζ_2	46 41 22	47 28 0	48 18 17
(10)	ζ 's Horizontal Parallax at (4) from N. A. = π'' ... +	58 45	58 44	58 44
(11)	From Table II $\Delta \pi''$... +	5	5	5
(12)	$\log. \pi_1'' = \log. (\pi + \Delta \pi)''$...	3.54777	3.54765	3.54765
(13)	$\log. \sin \zeta_2$...	1.86192	1.86740	1.87314
(14)	(12) + (13) = $\log. (\pi_1 \sin \zeta_2)''$...	3.40969	3.41505	3.42079
(15)	$\pi_1 \sin \zeta_2$...	42 49	43 20	43 55
(16)	(9) - (15) = $\zeta_2 - \pi_1 \sin \zeta_2 =$... ζ_1	45 58 33	46 44 40	47 34 22
(17)	ζ 's Declination at (4) from N.A. = δ ... +	11 57 8	11 58 15	11 59 27
(18)	$\Delta \delta$ from Table III ... +	15	15	15
(19)	(17) + (18) = $\delta + \Delta \delta = \delta_1$... +	11 57 23	11 58 30	11 59 42
(20)	$\phi - (19) = (\phi - \delta_1)$...	27 27 9	27 26 2	27 24 50
(21)	(16) + (20) = $\zeta_1 + (\phi - \delta_1) = 2 \sigma_1$...	73 25 42	74 10 42	74 59 12
(22)	(16) - (20) = $\zeta_1 - (\phi - \delta_1) = 2 \sigma_2$...	18 31 24	19 18 38	20 9 32
(23)	σ_1 ...	36 42 51	37 5 21	37 29 36
(24)	σ_2 ...	9 15 42	9 39 19	10 4 46
(25)	$\log. \sin \sigma_1$...	1.7765729	1.7803585	1.7843813
(26)	$\log. \sin \sigma_2$...	1.2066735	1.2245847	1.2430716
(27)	$\log. \sec \phi$...	0.1120256	0.1120256	0.1120256
(28)	$\log. \sec \delta_1$...	0.0095255	0.0095554	0.0095876
(29)	(25) + (26) + (27) + (28) = $\log. \sin 2\frac{1}{2} t$	1.1047975	1.1265242	1.1490661
(30)	$\log. \sin \frac{1}{2} t$...	1.5523988	1.5632621	1.5745331
(31)	t (in arc) ... +	41 48 18	42 54 56	44 6 8
(32)	S. T. Gr. Mean Noon on 28 days (see (4)) ...	18 28 5.8	18 28 5.8	18 28 5.8
(33)	Local Mean Time (same as (3)) ...	10 25 34.8	10 30 10.9	10 35 5.8
(34)	Acceleration for (4) ...	52.7	53.4	54.2
(35)	(32) + (33) + (34) = local S. T. of observation = θ	4 54 33.3	4 59 10.1	5 4 5.8
(36)	t (in time) deduced from (31) ... +	2 47 13.2	2 51 39.7	2 56 24.5
(37)	ζ 's Right Ascension or AR = $\theta - t$...	2 7 20.1	2 7 30.4	2 7 41.3
(38)	Greenwich Mean Time for (37) from N. A. ...	5 21 1.1	5 25 47.8	5 30 51.2
(39)	(38) - (33) = Approx. Long. = L_2 ... -	5 4 33.7	5 4 23.1	5 4 14.6
(40)	(39) - $L_1 = L_2 - L_1$... +	26.3	36.9	45.4
(41)	At (38) change in ζ 's A R for increment of $1^m = \lambda^s$... +	2.155	2.155	2.156
(42)	Do. Do. Decn. Do. = β'' ... +	14.621	14.615	14.609
(43)	$\log. \cos \phi$ (see (27)) ...	1.8880	1.8880	1.8880
(44)	$\log. \sin t$ (see (31)) ...	1.8239	1.8331	1.8426
(45)	$\log. \operatorname{cosec} \zeta_1$ (see (16)) ...	0.1432	0.1377	0.1319