

Item	Date	Time	Quadrant Measurement				Angle	Astrolabe		Angle	Pinky Finger
			Azimuth1	Altitude1	Azimuth2	Altitude2	(Degrees)	Alt1	Alt2	(Degrees)	
Star Movement in an Hour											
Mintaka - 0° Declination	3/3/2024	7:30 PM	184.9	54	210.5	52.2	25.66				
Capella - 45° Declination	3/3/2024	8:20 PM	313.3	73	304.2	65.8	11.60				
How far Moon moves in an hour	8/18/2024	7:53 PM	119	3.5	128.3	12.1	12.67				
Angular diameter of Moon	8/14/2024	8:12 PM		21.4		21.9	0.5	19.5	20	0.5	~1/2 finger width
Azimuth of Rising Full Moon					<== Northern Lunar Standstill						
Month 1	8/18/2024	7:53 PM	119	3.5							
Month 2	9/17/2024	7:17 PM	97	2.5							
Month 3	10/16/2024	6:59 PM	80.9	1.3							
Altitude of Full Moon 1 Hr After Rising											
Month 1	8/18/2024	8:53 PM	128.3	12.1							
Month 2	9/17/2024	8:18 PM	106.5	13.3							
Month 3	10/16/2024	7:59 PM	89.5	11.5							

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The way I built my Jacob's Staff, I cannot measure an angle less than 2.2 degrees. I see now why in some pictures of Jacob's Staffs, there are bigger ones and smaller ones. To accomodate measuring larger an smaller angles in the sky.

			Quadrant Measurement						
	Date	Time	Azimuth1	Altitude1	Azimuth2	Altitude2	Angle	Actual	
Length of Orion's Belt	1/30/2024	7:51 PM	156	44.8	158	47.1	3.05	2.74	
Measure Angles Between These Stars									
Betelgeuse and Rigel	1/30/2024	7:02 PM	127.6	46	150	38.4	23.65	18.50	
Castor and Pollux	1/30/2024	6:49 PM	79.5	39.8	82	35.5	4.97	4.30	
3 Stars of Summer Triangle									
Deneb and Vega	6/5/2024	9:49 PM	47.9	22.5	67	36.2	23.51	24	
Deneb and Altair	6/5/2024	10:54 PM	53.8	27.1	94	17.5	41.33	38	
Vega and Altair	6/5/2024	11:00 PM	74	43.9	95.5	19.5	32.52	34	
Pegasus Square Diagnols									
Alpheratz-Markab	7/3/2024	3:28 AM	92	52.9	95.9	32.5	20.77		
Algenib-Scheat	8/16/2024	9:53 PM	81.1	14.7	80.8	35.4	20.70		Astrolabe
Polaris and the Horizon	1/28/2024	6:46 PM	0	39.9				39.9	39.9

			Quadrant Measurement					Jacob's Staff Measurement		Jacob's Staff tan x	Jacob's Staff arctan x	Jacob's Staff Angle
			Venus		Sunset							
Angle Between Venus and Just Set Sun	Date	Time	Azimuth	Altitude	Azimuth	Altitude	Angle	Cross	Staff			
Observation 1	9/18/2024	7:13 PM	247.5	12.3	270.8	0.9	25.94	10	21.3125	0.234604	0.239056213	27.4
Observation 2	9/22/2024	7:09 AM	246.5	8.8	268.4	1.6	23.05	10	21.6875	0.230548	0.234767677	26.9
Observation 3	9/24/2024	6:57 PM	242.9	10.3	267	1	25.83	9.875	19.75	0.25	0.255412812	29.3
Observation 4	9/26/2024	7:38 PM	260	7.8	238.8	13.3	21.90	9.5	21.875	0.217143	0.22065562	25.3
Observation 5	9/28/2024	19z;35	244.1	12.5	265.6	6.8	22.24	9	20.75	0.216867	0.220366623	25.3
Observation 6	9/30/2024	7:31 PM	260.3	8.5	241.9	13.3	19.02	8.5	22.156	0.191822	0.194227702	22.3
Observation 7	10/10/2024	6:56 PM	260	2.8	237.1	7.9	23.46	8	17.5	0.228571	0.232681625	26.7
Observation 8	10/13/2024	6:23 PM	231.1	11.3	259.1	2.5	29.35	8	12.6875	0.315271	0.326387363	37.4
Observation 9	10/15/2024	6:20 PM	229.9	13.3	260.9	1.9	33.03	10	16.875	0.296296	0.305454541	35.0
Observation 10	10/19/2024	6:31 PM	228.8	11.5	254.1	2.3	26.92	11	20.4375	0.269113	0.275907484	31.6
Observation 11	10/21/2024	6:27 PM	227.5	12.8	254.3	2.5	28.71	11	19.125	0.287582	0.295927923	33.9
Observation 12	10/23/2024	6:03 PM	222.8	15.3	254	1.8	34.00	12	18.34375	0.327087	0.33956264	38.9
Observation 13	10/26/2024	6:07 PM	221.1	14.8	252.5	1.8	33.98	12	19.625	0.305732	0.315831048	36.2
Observation 14	10/29/2024	6:14 PM	225.9	13.8	253.3	1.5	30.03	12	19.875	0.301887	0.311594296	35.7
Observation 15	10/31/2024	5:59 PM	222.8	15.8	255.9	1.5	36.06	12	17.5625	0.341637	0.355944681	40.8
Observation 16	11/7/2024	4:51 PM	214.3	16.5	247.3	1.9	36.09					
Observation 17	11/10/2024	4:46 PM	215.9	16.1	249.9	1.3	37.08					
Observation 18	11/13/2024	4:32 PM	209.3	19.1	245.2	1.9	39.81					
Observation 19	11/15/2024	4:32 PM	218.1	16.9	253.3	1.9	38.26					
Observation 20	11/17/2024	4:32 PM	210.1	19.3	246	1.8	39.94					
Observation 21	11/20/2024	4:29 PM	208.5	20.3	245.1	1.5	41.15					
Observation 22	11/22/2024	4:30 PM	206.5	20.5	244.6	1.5	42.57					
Observation 23	11/25/2024	4:21 PM	207.9	20.8	244.8	1	41.88					
Observation 24	11/27/2024	4:24 PM	204.8	21.3	243	1.1	43.21					
Observation 25	12/8/2024	4:24 PM	201.9	25.3	235.3	1.5	41.01					

Rolling Clouds

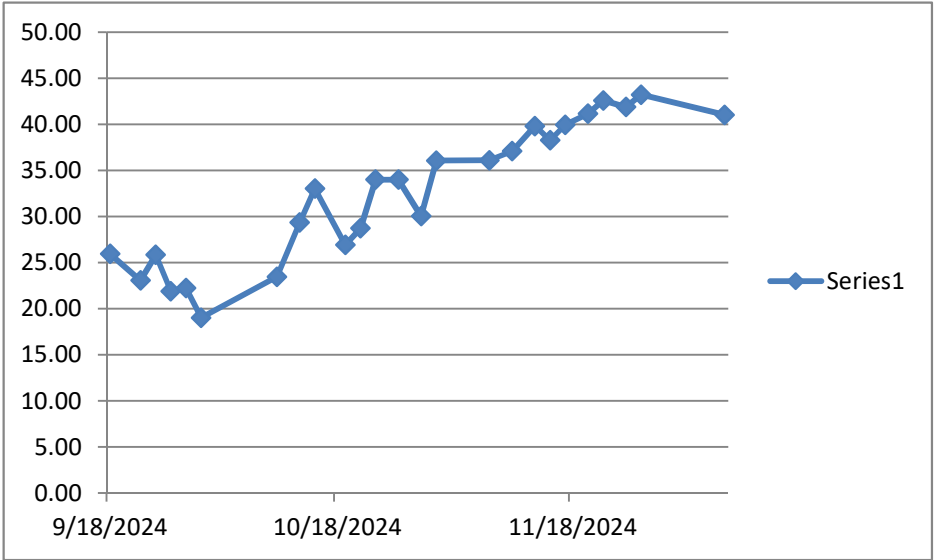
clouds over mtns

clouds over mtns

Venus 1/2 phase

8.5 miles east at Costco

Lone higher peak tonight



Sunset & Venus Distance