

ICAL PROBLEMS.

MOON'S PHASES.	D.	Toronto.		Quebec.		Twilight or Daylight begins and ends at—									
						Toronto.		Halifax.		Montreal.		Fredrick.		Quebec.	
		h	m	h	m	Beg. End	Days.	Beg. End	Days.	Beg. End	Days.	Beg. End	Days.	Beg. End	Days.
☾ First Quarter ...	7	0	20 mo	0	53 mo	h m h m		h m h m		h m h m		h m h m		h m h m	
☾ Full Moon	13	5	42 ev	6	14 ev	1 22 7 16	1	2 17 18	4	2 17 18	4	1 17 20	4	1 18 7 21	
☾ Last Quarter ...	20	0	49 ev	1	22 ev	10 4 34 7	0	4 33 7	1	4 32 7	2	4 31 7	2	4 31 7	3
☾ New Moon	28	4	37 ev	5	10 ev	10 4 45 6	4	4 45 6	4	4 45 6	4	4 46 6	4	4 46 6	4
☾ Perigee	13	1	15 ev	1	47 ev	30 4 56 6	27	4 56 6	27	5 9 6	23	5 6 21	4	5 7 6 29	
☾ Apogee	26	9	21 ev	9	53 ev										

Ephemeris of the Planets, &c.

Day Mo.	Venus South Even.	Mars South Even.	Jupiter South Even.	Saturn South Morn.	Sun's Longi- tude.	Sun's Right Ascen.	Venus Right Ascen.	Mars Right Ascen.	Jupiter Right Ascen.	Saturn Right Ascen.	Venus Decl. South.	Mars Decl. South.	Jupiter Decl. South.	Saturn Decl. North.
1 ...	h m	h m	h m	h m	°	h m	h m	h m	h m	h m	°	°	°	°
7 ...	1 4	3 50	11 31	6 18	188 42	12 32 13	46 16	33 0 15	6 59 10	26 23	25	0	7 22	7
13 ...	1 8	3 45	11 5	5 55	194 37	12 54 14	14 16	52 0 12	7 0 13	12 24	0	0	25 22	5
19 ...	1 13	3 40	10 38	5 32	200 33	13 16 14	43 17	11 0 9	7 1 15	43 21	26	0	42 22	4
25 ...	1 18	3 36	10 12	5 9	206 31	13 38 15	13 17	30 0 7	7 1 18	12 24	45	0	58 22	4
31 ...	1 26	3 32	9 46	4 46	212 36	14 1 15	43 17	49 0 5	7 2 20	17 21	54	1	11 22	4

Day of Month.	Day of Week.	Day of Year.	Calendar for Upper Canada and Nova Scotia.			Calendar for Lower Canada and New Brunswick.			DEPARTMENT FOR ALL OF UPPER AND LOWER CANADA.										
			Sun Rises.	Sun Sets.	Moon Sets.	Sun Rises.	Sun Sets.	Moon Sets.	True Star in Meridian Morning.	Shadow at Noon Mark.	M's Age Noon.	M's South Even.	Moon's Phase at 7 P. M.	Sun's Declination South.					
			h m	h m	h m	h m	h m	h m	h m s	h m s	days	h m	s	° ' "					
1	Wed.	275	5 58	5 41	6 40	6 45	36	6 34	0 26	52	11 49	29	2.5	1 34	☾	10	3	26	46
2	Thur.	276	5 59	5 40	7 36	5 33	6 55	0 22	57	11 49	10	3.5	2 17	do.	22	3	50	4	
3	Friday	277	6 0	5 38	7 32	6 32	7 22	0 19	11	48 52	4.5	3 4	☾	4	4	13	18		
4	Satur.	278	6 1	5 36	8 9	5 31	7 58	0 15	5	11 48 34	5.5	3 55	do.	16	4	36	29		
5	SUND	279	6 3	5 34	8 57	5 28	8 45	0 11	16	11 48 16	6.5	4 48	do.	28	4	59	37		
6	Mond.	280	6 4	5 32	9 55	5 27	9 43	0 7	14	11 47 59	7.5	5 44	☾	11	5	22	41		
7	Tuesd.	281	6 5	5 30	11 36	5 25	10 53	Evening	11	47 42	8.5	6 41	do.	21	5	45	40		
8	Wed.	282	6 5	5 29	Morn 6 13	5 24	Morn 11 55	26	11 47 25	9.5	7 37	☾	8	6	8	35			
9	Thur.	283	6 7	5 27	20 6	14	5 20	11	11 51 31	11 47	9	10.5	8 31	do.	22	6	31	26	
10	Friday	284	6 9	5 25	1 37	6 15	5 19	1 31	11 47 35	11 46	58	11.5	9 23	☾	6	6	54	10	
11	Satur.	285	6 10	5 23	2 58	6 15	5 18	2 55	11 43 39	11 46	38	12.5	10 15	do.	21	7	16	50	
12	SUND	286	6 11	5 22	4 16	6 15	5 16	4 16	11 39 43	11 46	24	13.5	11 6	☾	6	7	39	23	
13	Mond.	287	6 12	5 20	Rises 6 1	5 14	Rises 11 35	37	11 46	9 14	5.11	5 8	do.	21	8	1	50		
14	Tuesd.	288	6 14	5 18	5 38	6 15	5 11	5 33	11 31 53	11 45	56	15.5	Morn ☾	7	8	24	9		
15	Wed.	289	6 15	5 17	6 11	6 2	5 9	6 3	11 27 53	11 45	43	16.5	0 59	do.	22	8	46	22	
16	Thur.	290	6 16	5 15	6 49	6 24	5 8	6 40	11 24 6	11 45	30	17.5	1 51	☾	6	9	8	28	
17	Friday	291	6 18	5 13	7 39	6 25	5 6	7 27	11 20 4	11 45	18	18.5	2 51	do.	21	9	30	26	
18	Satur.	292	6 19	5 12	8 36	6 26	5 4	8 24	11 16 8	11 45	7	19.5	3 52	☾	4	9	52	15	
19	SUND	293	6 20	5 10	9 40	6 27	5 2	9 28	11 12 12	11 44	56	20.5	4 52	do.	18	10	13	56	
20	Mond.	294	6 21	5 8	10 48	6 28	5 2	10 38	11 8 15	11 44	46	21.5	5 50	☾	1	10	35	28	
21	Tuesd.	295	6 23	5 7	11 55	6 30	5 0	11 48	11 4 20	11 44	37	22.5	6 42	do.	19	10	57	51	
22	Wed.	296	6 24	5 5	Morn 6 31	4 58	Morn 11 0	24	11 44 28	23.5	7 30	do.	20	11	18	4			
23	Thur.	297	6 25	5 3	5 59	6 32	4 56	54	10 56 28	11 44	20	24.5	8 14	☾	8	11	39	8	
24	Friday	298	6 27	5 2	2 46	6 34	4 54	2 1	10 52 32	11 44	12	25.5	8 55	do.	23	12	0	0	
25	Satur.	299	6 28	5 0	3 56	6 35	4 53	3 2	10 48 36	11 44	7	26.5	9 34	☾	1	12	20	42	
26	SUND	300	6 29	4 59	4 56	6 37	4 51	4 6	10 44 40	11 44	1	27.5	10 13	do.	1	13	41	12	
27	Mond.	301	6 31	4 57	5 6	6 38	4 49	5 8	10 40 44	11 43	56	28.5	10 52	do.	25	13	1	13	
28	Tuesd.	302	6 32	4 56	Sets. 6 41	4 47	Sets 10 36	48	11 43 52	29.5	11 32	☾	7	13	21	37			
29	Wed.	303	6 33	4 54	5 7	6 42	4 47	5 0	10 32 52	11 43	48	0.8	Ev. 15	do.	19	13	41	31	
30	Thur.	304	6 35	4 53	5 34	6 44	4 44	3 25	10 28 56	11 43	55	1.8	1 1	☾	14	14	1	12	
31	Friday	305	6 36	4 51	6 10	6 45	4 43	6 0	10 25 0	11 43	43	2.8	1 51	do.	19	14	20	39	

PROB. 74.—A triangular field, whose sides are 100, 120, and 160 rods, is required to be divided into 3 equal parts, by lines drawn from the corners, and meeting at a point within. Required the lengths of said lines.

PROB. 75.—A ship sails north 7 miles per

hour, another sails east 10 miles per hour, for 5 hours; she then tacks to cut the other off, or to overtake her. How far must she sail to do it, and on what course?

PROB. 76.—Required all the integral values of x , and y , when $11x+5y=254$.