

ICAL PROBLEMS.

39.—Given to
 y ; $x+y=5$,
 $=1241$.

40.—How many
 a rectangular
 courses, there
 balls in the top

41.—If a seg-
 circle, whose
 and height 1,
 out a perpen-
 ecting the base
 be the surface
 ty of the body

42.—If the seg-
 problem 41, re-
 and a line per-
 r to the end of
 what will be the
 and solidity of
 generated?

43.—If a figure
 sides, each of
 2 feet, revolve
 e of its sides,
 be the surface
 ty of the body

67 5-6ths, Ans.

d in one only

ure, is by the
 p. 10.

$2x^2 + s^2 z^2 = x^2 +$
 $+ s^2$, and $y =$
 ke them. If
 Ans.

$+ x^8 y^2 = 40320$

$- x^{12} y^2 = 40320$.

$+ 3 = 197,392$

plete, for the

$+ 3 = 197,392$

Moon's PHASES.	D.	Toronto.		Quebec.		Twilight or Daylight begins and ends at—											
						Toronto.		Halifax.		Montreal.		Fredricton.		Quebec.			
		h	m	h	m	Beg.	End	Beg.	End	Beg.	End	Beg.	End	Beg.	End	Beg.	End
● New Moon.	2	6	23 ev	6	51 ev												
☾ First Quar.	10	8	33 mo	9	5 mo												
○ Full Moon.	18	6	34 mo	7	7 mo	12	45	9	50	1	55	10	0	1	45	10	9
☾ Last Quar.	25	5	0 mo	5	32 mo	10	1	57	10	11	46	10	12	1	36	10	17
☾ Apogee ...	11	8	9 mo	8	41 mo	20	1	55	10	7	1	43	10	19	1	22	10
☾ Perigee ...	25	3	51 mo	4	43 mo	30	2	0	10	6	1	50	10	17	1	38	10

Ephemeris of the Planets, &c.

Day Mo.	Venus South Morn.	Mars South Even.	Jupiter South Morn.	Saturn South Even.	Sun's Longi- tude.	Sun's Right Ascen.	Venus Right Ascen.	Mars Right Ascen.	Jupiter Right Ascen.	Saturn Right Ascen.	Venus Decl. North.	Mars Decl. South.	Jupiter Decl. South.	Saturn Decl. North.
	h	m	h	m	°	h	m	h	m	h	°	°	°	°
1 ...	11	2	7	37	7	37	1	21	71	19	4	39	3	43
7 ...	11	9	7	19	7	17	1	1	75	9	5	4	4	14
13 ...	11	16	7	1	6	56	0	41	82	48	5	29	4	45
19 ...	11	21	6	45	6	35	0	20	88	31	5	54	5	16
25 ...	11	32	6	30	6	14	morn	94	14	6	18	5	48	12
30 ...	11	39	6	17	5	56	11	43	99	6	6	39	6	15

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 Rises.	Sun Rises.	Sun Sets.	Moon Rises.	Pole Star in Meridian Morning.	Shadow at Noon Mark. Morning.	Mn's Age Noon.	Moon South Morn.	Moon's Place at 7 P. M.	Sun's Declination North.																
			h m	h m	h m	h m	h m	h m	h m	s	h m	s	days	h m	s	° '	° '	''												
1	SUND.	153	4	18	7	37	3	7	1	18	7	36	2	59	8	25	11	11	57	35	28	1	10	41	γ	29	22	9	13	
2	MOND.	154	4	18	7	37	Sets		4	18	7	38	Sets		8	21	16	11	57	45	29	1	11	39	δ	13	22	17	2	
3	TUESD.	155	4	17	7	38	8	54	4	17	7	39	9	6	8	17	21	11	57	55	0	7	Ev.	39	do.	27	22	24	22	3
4	WED.	156	4	17	7	39	9	54	4	17	7	39	10	6	8	13	26	11	58	5	1	7	1	39	Π	16	22	31	19	
5	THUR.	157	4	17	7	40	10	44	4	16	7	40	10	54	8	9	31	11	58	15	2	7	2	37	do.	23	22	37	52	
6	FRIDAY	158	4	16	7	41	11	20	4	16	7	40	11	28	8	5	36	11	58	26	3	7	3	31	ω	6	22	44	1	
7	SATUR.	159	4	16	7	41	11	49	4	15	7	41	11	57	8	1	41	11	58	37	4	7	4	20	do.	19	22	49	41	
8	SUND.	160	4	16	7	42	Morn		4	15	7	41	Morn		7	57	45	11	58	49	5	7	5	5	♋	1	22	55	7	
9	MOND.	161	4	16	7	42		13	4	15	7	42		18	7	53	50	11	59	0	6	7	5	46	do.	13	23	0	4	
10	TUESD.	162	4	15	7	43	32	4	1	15	7	43	34	7	49	55	11	59	12	7	7	6	6	26	do.	25	23	4	36	
11	WED.	163	4	15	7	43	51	4	1	15	7	43	51	7	46	0	11	59	24	8	7	7	7	5	♌	7	23	8	44	
12	THUR.	164	4	15	7	44	1	8	4	15	7	43	1	7	7	42	5	11	59	36	9	7	7	44	do.	18	23	12	28	
13	FRIDAY	165	4	15	7	44	1	25	4	1	15	7	43	1	23	7	38	10	11	59	49	10	7	8	25	do.	30	23	15	47
14	SATUR.	166	4	15	7	45	1	44	4	1	15	7	44	1	40	7	34	15	After	12	11	7	9	9	♍	13	23	18	42	
15	SUND.	167	4	15	7	46	2	6	4	1	15	7	45	1	58	7	30	20	12	0	14	12	7	9	56	do.	25	23	21	12
16	MOND.	168	4	15	7	46	2	33	4	1	15	7	45	2	25	7	26	25	13	0	27	13	7	10	48	♎	8	23	23	17
17	TUESD.	169	4	15	7	46	Rises	4	1	15	7	46	Rises	7	22	30	12	0	39	14	7	11	44		do.	21	23	24	58	
18	WED.	170	4	15	7	47	8	33	4	1	15	7	47	8	45	7	18	34	12	0	52	15	7	Morn	♏	4	23	26	13	
19	THUR.	171	4	15	7	47	9	26	4	1	15	7	47	9	38	7	14	39	12	1	5	16	7	0	43	do.	17	23	27	4
20	FRIDAY	172	4	15	7	47	10	8	4	1	14	7	48	10	18	7	10	44	12	1	18	17	7	1	43	♐	2	23	27	31
21	SATUR.	173	4	15	7	48	10	44	4	1	14	7	48	10	51	7	6	49	12	1	31	18	7	2	40	do.	16	23	27	32
22	SUND.	174	4	16	7	48	11	10	4	1	15	7	49	11	15	7	2	54	12	1	44	19	7	3	35	do.	30	23	27	9
23	MOND.	175	4	16	7	48	11	24	4	1	15	7	49	11	26	6	58	59	12	1	57	20	7	4	27	♑	14	23	26	21
24	TUESD.	176	4	16	7	48	11	56	4	1	16	7	49	11	57	6	55	4	12	2	9	21	7	5	16	do.	28	23	25	8
25	WED.	177	4	16	7	48	Morn	4	1	16	7	48	Morn		6	51	9	12	2	22	22	7	6	4		♒	12	23	23	31
26	THUR.	178	4	17	7	48	18	16	4	1	16	7	48	16		6	47	14	12	2	35	23	7	6	52	do.	26	23	21	23
27	FRIDAY	179	4	17	7	48	41	1	4	1	17	7	48	37	6	43	19	12	2	47	24	7	7	41		γ	10	23	19	2
28	SATUR.	180	4	18	7	48	1	7	1	18	7	48	1	1	6	39	24	12	2	59	25	7	8	33		do.	24	23	16	11
29	SUND.	181	4	18	7	48	1	41	4	1	18	7	48	1	32	6	35	29	12	3	11	26	7	9	28	δ	8	23	12	55
30	MOND.	182	4	19	7	48	2	20	4	1	18	7	48	2	10	6	31	34	12	3	23	27	7	10	26	do.	22	23	9	15

PROB. 44.—Suppose a man starts from London at 12 o'clock Monday noon, and travels westward with a speed that will carry him around the earth in twenty-four hours, where or in what longitude will the inhabitants first tell him that it is Tuesday noon?

PROB. 45.—If the diameter of the earth were

8,000 miles, and it were divested of all segments so as to render it a solid of 20 equal sides, it would have 12 similar and equal pyramidal mountains. What would be their height?

PROB. 46.—Required the smallest four figures which being divided by 2, 3, 4, 5, 6, 7, 8, and 9, will leave 1 each time.