

Day of Month	Day of Week	Remarkable Events.	ASTRONOMICAL NOTES.	Polar Distance of Pole Star.	MATHEMATICAL PROBLEMS.
1	Tuesd.	Battle of the Nile, 1798.	☿ ☿ ♀, ♄, ♀. ♀ ☿ ♀.	1 27 40	PROB. 47.—If the figure of Problem 55, revolve about a perpendicular to its longest diagonal, what area and solidity will be produced?
2	Wed.	Pilgrin Fathers sailed, 1629.	Earth farthest Sun.	1 27 39	PROB. 48.—The sides of an equilateral are each 2 feet. If it revolve about one side, what surface and solidity will it generate?
3	Thur.	Rosseau died, 1778.	1st. Venus farthest N.	1 27 39	PROB. 49.—If the triangle in Problem 48 revolve about a line perpendicular to the end of one side, what will be the surface and solidity of the body produced.
4	Friday	American Independence, 1776.	Venus in Gemini.	1 27 39	PROB. 50.—If an ellipse whose transverse and conjugate diameters are 6 and 4 feet, revolve about its transverse axis, what will be the surface and solidity of the spheroid thus produced?
5	Satur.	Sovereigns first issued, 1817.	Uranus in Taurus.	1 27 39	PROB. 51.—Given to find x ; $x^3 - 8x^2 + 19x = 12$.
6	SUND.	7th Sunday after Trinity.	Moon in Apogee.	1 27 39	
7	Mond.	Col. Simcoe Lt. Gov. 1792.	Moon near Mars.	1 27 39	
8	Tuesd.	(7) Sheridan died, 1816.	Mars 90° E. of Sun.	1 27 39	
9	Wed.	"Queen of the West," burnt, 1855.	♄ Gr. Elong. W. (20° 27')	1 27 39	
10	Thur.	Aguerre died 1851.	Mars in Virgo	1 27 38	
11	Frid.	(10) Old Lond. Bridge burnt 1212.	Moon farthest South.	1 27 38	
12	Sat.	Battle of the Boyne, 1690.	Mercury near Saturn.	1 27 38	
13	SUND.	8th Sunday after Trinity.	Venus Conj. Sun.	1 27 38	
14	Mond.	The Bastille destroyed, 1789.	☿ near Neptune.	1 27 37	
15	Tuesd.	St. Seithun.	22nd. ☿ near Moon.	1 27 37	
16	Wed.	Detroit taken, 1812.	Sun enters Cancer.	1 27 37	
17	Thur.	Dr. Watts born, 1674.	Jupiter in Pisces.	1 27 37	
18	Friday	Petrarch died, 1374.	Venus in Ascen. node.	1 27 37	
19	Satur.	Kirk takes Quebec, 1629.	Saturn in Gemini.	1 27 36	
20	SUND.	9th Sunday after Trinity.	Venus in perihelion.	1 27 36	
21	Mond.	Union of Engl. & Scotland, 1706.	Moon highest.	1 27 36	
22	Tuesd.	Bank of B. N. A. estab. 1830.	☿ Stationary. ☿ ☿ ♄	1 27 36	
23	Wed.	Canada Union assented to, 1840.	☿ near Mercury.	1 27 36	
24	Thur.	Irish Rebellion, 1803.	Moon near Venus.	1 27 35	
25	Friday	Battle of Lundy's Lane, 1813.			
26	Satur.	Colridge died, 1834.			
27	SUND.	10th Sunday after Trinity.			
28	Mond.	Robespierre guillotined, 1794.			
29	Tuesd.	(28) Lord Durham died, 1840.			
30	Wed.	First English Newspaper, 1588.			
31	Thur.	Charles X. dethroned, 1830.			

ANSWERS TO THE EXAMPLES FOR 1855.

Ex. 1.—Let $30=a$, and $21=b$, and $x=a$ side of the required square; then $x=ab \div (a+b)=13 \frac{13}{20}$ ths. Ans.

Ex. 2.—Let $40=a$, and $3=b$, then the sides about the right angles $= \frac{1}{2}(a+b) \pm \sqrt{\frac{1}{4}(a-b)^2 - \frac{1}{4}b^2} = 15$, or 8, and hence the hypotenuse $= 17$. Ans.

Ex. 3.—Let $4=a$, $8=b$, $12=c$, then the required chord $= (\sqrt{(4c^2-a^2)b} + a\sqrt{(4c^2-b^2)}) \div \frac{1}{2c} = 11.676$. Ans.

Ex. 4.—Let $20=a$, $35=b$, $48=c$, then the radius required $= abc \div \sqrt{4a^2c^2 - (a^2 + c^2 - b^2)} = 24 \frac{1}{2}$. Ans.

Ex. 5.—Superficial area $= \frac{1}{2}\sqrt{(a+b+c)(a+c-b)(a+b-c)(b+c-a)}$, or if $2p=a+b+c$, then area $= \sqrt{p(p-a)(p-b)(p-c)}$. Ans.

Ex. 6.—Let $13=a$, $20=b$, $21=c$, then the perpendicular required $= \sqrt{(a+b+c)(a+b-c)(a-b+c)(-a+b+c)} \div 2c = 12$. Ans.

Ex. 7.—Let $25=a$, $51=b$, $52=c$, then the diameter required $= \sqrt{(-a+b+c)(a-b+c)(a+b-c)} \div \sqrt{(a+b+c)} = 19 \frac{1}{2}$. Ans.

Ex. 8.—Let $3=a$, $5=b$, and $6=c$, then diagonal required $= \sqrt{2a^2 + 2b^2 - c^2} = 4\sqrt{2} = 5.6568$ Ans.

Note.—This question was impossible as it reads. If one diagonal be 6, then the other is as above.

- ☉ New Mo.
- ☾ First Qu.
- ☽ Full Mo.
- ☾ Last Qu.
- ☉ New Mo.
- ☽ Apogee
- ☾ Perigee

Day	Mo.	Ver. Mo.
1 ...	11	h
7 ...	11	
13 ...	11	
19 ...	Ev.	
25 ...	0	
31 ...	0	

Day of Month	Day of Week
1 Tuesd.	1
2 Wed.	1
3 Thur.	1
4 Friday	1
5 Satur.	1
6 SUND.	1
7 Mond.	1
8 Tuesd.	1
9 Wed.	1
10 Thur.	1
11 Friday	1
12 Satur.	1
13 SUND.	1
14 Mond.	1
15 Tuesd.	1
16 Wed.	1
17 Thur.	1
18 Friday	2
19 Satur.	2
20 SUND.	2
21 Mond.	2
22 Tuesd.	2
23 Wed.	2
24 Thur.	2
25 Friday	2
26 Satur.	2
27 SUND.	2
28 Mond.	2
29 Tuesd.	2
30 Wed.	2
31 Thur.	2

PROB. 52.—which being will leave 1, PROB. 53. is 4, 5, and the largest c