

Day of Month	Day of Week.	Remarkable Events.	ASTRONOMICAL NOTES.	Polar Distance of Pole Star.	MATHEMATICAL PROBLEMS.
1	Friday	Lammas.	Venus in Cancer.	1 27 35	Pron. 55.—If the ellipse of Problem 50 revolve about its conjugate axis, what will be the surface and solidity of the spheroid thus produced?
2	Satur.	1) Negro Emancipation.		1 27 35	
3	SUND.	11th Sunday after Trinity.	Mars in Libra.	1 27 35	
4	Mond.	Shelley born, 1792.		1 27 34	
5	Tuesd.	Battle of Brownston, 1812.	Moon in Apogee.	1 27 34	
6	Wed.	Transfiguration.		1 27 34	Pron. 56.—If the ellipse of Problem 57 revolve about a line perpendicular to the end of the transverse axis, what will be the surface and solidity of the body thus generated?
7	Thur.	Queen Caroline died, 1821.	Moon near Mars.	1 27 34	
8	Friday	Marshal Ney shot 1815.		1 27 34	
9	Satur.	Louis Philippe decl. King, 1830.	Mercury up. ♂ Sun.	1 27 32	
10	SUND.	12th Sunday after Trinity.		1 27 32	
11	Mond.	Charleston Convent destr. 1831.	Jupiter in Pisces.	1 27 32	Pron. 57.—If the ellipse of Problem 50 revolve about a line perpendicular to the end of its conjugate axis, what will be the surface and solidity thus generated?
12	Tuesd.	George IV. born, 1762.	Moon farthest South.	1 27 32	
13	Wed.	Queen Adelaide born, 1792.	Venus near Regulus.	1 27 32	
14	Thur.	Printing Invented, 1437.		1 27 32	
15	Friday	Sir Walter Scott born, 1771.		1 27 32	
16	Satur.	Ben Johnson died, 1637.	Venus near Mercury.	1 27 31	Prob. 58.—Required the solidity of an upper conjugate segment of the spheroid of Problem 50, its height being 1 foot.
17	SUND.	13th Sunday after Trinity.	♄ 90° West of Sun.	1 27 31	
18	Mond.	Bentley died, 1803.	17th. Moon in Perigee.	1 27 31	
19	Tues.	Count Rumford died, 1814.	Moon near Jupiter.	1 27 31	
20	Wed.	Robert Bloomfield died, 1823.		1 27 30	
21	Thur.	(20) Treaty of Washington, 1842.	Saturn in Gemini.	1 27 30	
22	Friday	Warren Hastings died, 1818.	Sun enters Leo.	1 27 30	
23	Satur.	American War com. 1775.		1 27 29	
24	SUND.	14th Sunday after Trinity.	Venus in Leo.	1 27 29	
25	Mond.	David Hume died, 1776.	Moon Highest. ♀ ♂ Saturn.	1 27 28	
26	Tues.	Prince Albert born, 1819.		1 27 28	
27	Wed.	(28) Br. Slavery Abol. Bill, 1833.		1 27 28	
28	Thur.	Goethe died, 1749.	Uranus in Taurus.	1 27 27	
29	Friday	John Baptist, beheaded.		1 27 27	
30	Satur.	Dutch Fleet taken 1799.	Uranus stationary.	1 27 27	
31	SUND.	15th Sunday after Trinity.	Moon near Venus & ♄	1 27 27	

ANSWERS TO THE EXAMPLES FOR 1855.

Ex. 9.—Let $a=60$, $b=91$, and $c=161$ —the two sides, the three being=252.

$$\text{Then } \sqrt{\left\{a^2 + \frac{1}{2}(b \pm c \sqrt{c^2 - 4a^2 - b^2}) \div (c^2 - b^2)\right\}} = 100, \text{ or } 61. \text{ Ans.}$$

Ex. 10.—Let a, b, c , be the numbers 17, 25, 28, then the distance of the point from the corners = $abc \div \sqrt{\{(a+b+c)(b-a+c)(a-b+c)(a-b-c)\}} = 14\frac{1}{2}$.

Ex. 11.—Let $a=13$, $b=20$, $c=21$, $r=4$ 2-3rds, then the radius of circumscribed circle = $abc \div 2r(a+b+c) = 10$ 5-6ths. Ans.

Ex. 12.—Let $109=a$, $302=2b$, then the sides required = $\frac{1}{2}\{b \pm \sqrt{(2a^2 - b^2)}\} = 91$ or 60. Ans.

Ex. 13.—Let $100=r$, then the sides of the octagon required = $r\sqrt{(2-\sqrt{2})} = 76.536$. Ans.

Ex. 14.—Let $100=a$. The side of the pentagon required = $\frac{1}{2}a\sqrt{(10-2\sqrt{5})} = 117.558$. Ans.

Ex. 15.—Let $100=a$, then the side of decagon required = $\frac{1}{2}a(\sqrt{5}-1) = 61.8034$. Ans.

Ex. 16.—Let $100=a$. Side of triangle = $a\sqrt{3} = 173.205$. Ans.

Ex. 17.—Let $60=a$, $b=15$, $c=34$ 17-30ths; then the base = $2b\sqrt{(2ac-4bc-b^2) \div (a-2b)} = 43$.

The sum of the other sides = $2(a-b)\sqrt{(2ac-4bc-b^2) \div (a-2b)} = 129$. Their product = $2ac$, from which it is found that the sides required = 68, and 61. Ans.

Ex. 18.—Let $4\sqrt{3}=a$, then the diameter of the required circle = $2\sqrt{(a\sqrt{3})} = 6.928$. Ans.

Note.—In this case the vertex of the triangle is supposed to lay in the middle point of the arc. If the entire base of the semi-circle be the base of the triangle, then it = $2\sqrt{\left\{\frac{a}{3}\sqrt{3}\right\}} = 4$. Ans.

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● New M
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Day Mo.	VS	VS
1	...	0
7	...	0
13	...	0
19	...	0
25	...	0
31	...	0

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

Prob. 59
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