

Day of Month	Day of Week.	Remarkable Events.	ASTRONOMICAL NOTES.	Polar Distance of Pole Star.	MATHEMATICAL PROBLEMS.
1	Tuesd.	<i>Circumcision.</i>	Mars near equator.	1 27 10	Pr. 1.—It is required
2	Wed.	(1) Ed. Burke born, 1730.	Saturn South, 10.52 ev.	1 27 10	to divide 1 into four parts,
3	Thur.	(4) Earthquake in Canada, 1663.	Venus South, 8.52 mo.	1 27 10	such that the sum of the
4	Friday	West Indies discovered, 1492.	Venus near Moon.	1 27 10	square roots of the parts
5	Satur.	Treaty bet'n Britain & U.S. 1781.	10th ♄ in Aphelion.	1 27 10	will be to 1 as 17 to 11.
6	SUND.	<i>Epiphany.</i>	Moon farthest South.	1 27 10	Pr. 2.—In trying to
7	Mond.	St. Anthony died, aged 105.	Moon near Mercury.	1 27 10	find the largest number
8	Tuesd.	<i>St. Lucian.</i>	Venus in Scorpio.	1 27 10	that will divide two other
9	Wed.	Mexican Independence, 1825.	Saturn South, 10.22 ev.	1 27 10	numbers, without re-
10	Thur.	Penny Postage com. in Engl. 1810.	Moon in perigee, 21 ♄	1 27 10	mainder, my quotients
11	Friday	First Public Lottery drawn 1569.	Moon near Neptune.	4 27 10	were 2, 3, 1, 2, 1, 5, 3.
12	Satur.	Sir C. Bagot, Gov. Gen. 1842.	Mars in Virgo.	1 27 10	Required those numbers.
13	SUND.	<i>1st Sunday after Epiphany.</i>		1 27 10	Pr. 3.—A can mow 1
14	Mond.	Halley died 1742.	Uranus in Taurus.	1 27 10	acre in 5½ hours, B, 1½
15	Tuesd.	Gen. Wolfe born 1726.	Saturn South, 9.57 eve.	1 27 10	acres in 8½ hours and
16	Wed.	Lindley Murray died 1826.	Moon ♄ Uranus.	1 27 10	C. 1 acre in 9¾ hours. In
17	Thur.	Benjamin Franklin born 1706.	Venus South 9.3 mo.	1 27 10	what time will they,
18	Friday	<i>Old Twelfth Day.</i>	Saturn near Moon.	1 27 10	working together, cut 9
19	Satur.	(20) Amer. Indep. acknowl. 1783.	Moon farthest North.	1 27 10	and five-sixth acres, and
20	SUND.	<i>Septuagesima.</i>	Sun enters <i>Capricornus</i> .	1 27 10	how much will each cut?
21	Mond.	Louis XVI. guillotined 1793.	Jupiter in Aquarius.	1 27 10	Pr. 4.—How high
22	Tuesd.	<i>St. Vincent.</i>	Saturn South 9.27 eve.	1 27 10	above the earth's surface
23	Wed.	Duke of Kent died, 1820.		1 27 10	must a man be to see ¼
24	Thur.	South Sea Bubble exploded, 1721.	Moon near Regulus.	1 27 10	of its surface?
25	Friday	<i>Conversion of St. Paul.</i>	Uranus stationary.	1 27 10	Pr. 5.—A globe whose
26	Satur.	Jenner died 1823.	Moon in Apogee.	1 27 10	diameter is 4 is dropped
27	SUND.	<i>Sexagesima.</i>	Saturn in Taurus.	1 27 10	into a conical glass full of
28	Mond.	Admiral Byng shot, 1757.	Mars near Moon.	1 27 10	water, its depth being 6
29	Tuesd.	(30) The Life-boat first used, 1790.	Saturn South, 8 58. ev.	1 27 10	and diameter 5. How
30	Wed.	Charles I. beheaded, 1643.	Venus South, 9.17 mo.	1 27 10	much water will run
31	Thur.	Guy Fawkes executed, 1606.	Mercury in Ascen. Node	1 27 11	over?

ANSWERS TO THE PROBLEMS FOR 1855.

PROB. 1.—1st \$3382.705; 2nd \$3872.875; 3rd \$1744.42 Ans.

PROB. 2.— $\frac{1}{2} + \frac{1}{3} = 7 \div 24 =$ what both do in 1 day, and in 3 days will do $3 \times 7 \div 24 = 7\frac{1}{2}$. Ans.

PROB. 3.—Let $4=a$, then the side of the required pentagon $= 2a \div \{(\sqrt{5}+1) + \frac{1}{3}\sqrt{(30+6\sqrt{5})}\}$
 $= 1.47263$ feet Ans.

Or $a \div 2.7162194 = 1.47263$ Ans.

PROB. 4.—Let each side $= 12 = 2a$, and $x =$ side of the square required, then $x = 2a(3 - \sqrt{3})$
 $= 15.21539$ Ans.

PROB. 5.—The heirs will share the estate in the ratio of 16,000, 12,000, and 8,000, or as 4, 3, 2
 Now $4+3+2=9$.

And $9:4::20,000:8888$ 8-9=1st.
 $9:3::20,000:6666$ 2-3=2nd. } Ans.
 $9:2::20,000:4444$ 4-9=3rd.

PROB. 6.— $24 \div 1 =$ sum of extremes. $25 \times 24 \div 2 = 300$ Ans.

PROB. 7.— $\frac{3}{4} + \frac{9}{10} + \frac{13}{20} = \frac{46}{20}$. Now $\frac{46}{20} - 2 \times \frac{13}{20} = 1 =$ twice A.'s work.

$\frac{46}{20} - 2 \times \frac{18}{20} = \frac{1}{2} =$ twice B's work, and $\frac{46}{20} - 2 \times \frac{15}{20} = \frac{4}{5} =$ twice C.'s work, and
 once the work of each will be $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{2}{5}$, and they must share the pay in this
 ratio, which is as 10, 5, and 8. Again $10+5+8=23$. Now $23:10::26.45:$
 $\$11.50=A$'s, $23:5::26.45:\$5.75=B$'s, and $23:8::26.45:\$9.20=C$'s Ans.

PROB. 8.—Let $18=a$, then the side of the square $= \frac{1}{2}a\sqrt{2} = 12.7279$ Ans.

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

Day Mo.	Val	Day Mo.	Val
1 ...	8	19 ...	9
7 ...	8	25 ...	9
13 ...	9	31 ...	9

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

PROB. 6.
 19 inches,
 6 in. deep
 the sides.
 PROB. 7.
 angles of a