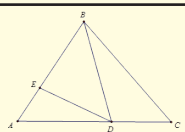
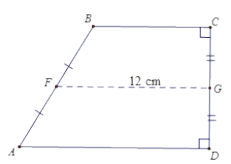
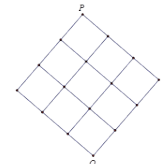
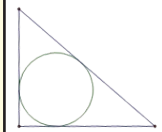
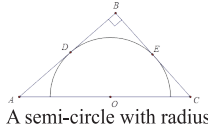
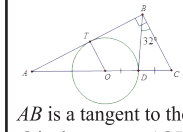
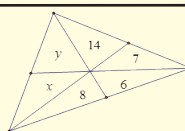
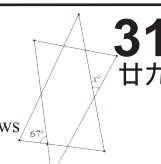


SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 廿九 $A = \{x: x + 3 > 16\}$, $B = \{x: 2x < 30\}$, $C = \{x: x \text{ is an integer}\}$. Find the number of elements in $A \cap B \cap C$.	2 三十 $\begin{array}{r} 5A7 \\ \times \quad B \\ \hline 4AC6 \end{array}$ If $A > C$, find the value of A .	3 七月 If a is the units digit of $2^{2016} + 0^{2016} + 1^{2016} + 6^{2016}$, find the value of a .	4 初二 Find the remainder of 6^{58} divided by 13.	5 初三 If $2 - i$ is a root of $x^2 + cx + d = 0$, where c and d are real numbers, find the value of d .	6 初四 Given that the polar coordinates of A and B are $(3, 120^\circ)$ and $(4, 210^\circ)$. Find the area of $\triangle OAB$.
7 立秋 Given $x^2 + 2 \equiv p(x-1)(x-2) + q(x-15) + r$. If $7d = p + q + r$, find the value of d .	8 初六 If the number 301.02 is written in base four and the digit 2 has the value $\frac{1}{A}$, $A = ?$	9 初七 If $x^4 = y^9$ and $a = 4 \log_b x$, find the value of a .	10 初八 $(\sqrt{2} + \sqrt{1})^{-1} + (\sqrt{3} + \sqrt{2})^{-1} + \dots + (\sqrt{100} + \sqrt{99})^{-1} + 1 = ?$	11 初九 If the number of ways of selecting 2 representatives from a team of n members is 55. Find the value of n .	12 初十 The maximum value of $\frac{83x^2 - 166x + 275}{4x^2 - 8x + 20}$ is _____.	13 十一 Given that $\begin{cases} \alpha^2 = -3\alpha + 2 \\ \beta^2 = -3\beta + 2 \end{cases}$, where $\alpha \neq \beta$. Then $\alpha^2 + \beta^2 = \underline{\hspace{2cm}}$.
14 十二  Given that $AE : EB = 1 : 3$, $AD : DC = 4 : 3$. If the area of $\triangle BDE = 6$, the area of $\triangle ABC$ is _____.	15 十三 If the graph of $y = x^2 - 1$ is translated 5 units to the right and then reflected about the y -axis, the resulting graph is $y = px^2 + qx + r$, find the value of $p + q + r$.	16 十四  If the area of trapezium $ABCD$ is 192 cm^2 , find CD .	17 十五 Given that $f(x+3) = 2x^2 - 3x - 27$. Find the remainder when $f(x-1)$ is divided by x .	18 十六 Let $T(n)$ denote the maximum number of regions of n lines dividing a circle. $T(1) = 2, T(2) = 4, T(3) = 7, \dots$. Find the value of n if $T(n) = 172$.	19 十七 How many trailing zero are there in the product $1 \times 2 \times 3 \times \dots \times 80$?	20 十八  Find the number of shortest routes from P to Q .
21 十九 Find the total number of positive integral solutions of the equation $x + y + z = 8$.	22 二十  If the radius of the inscribed circle is 4 cm and the perimeter of the triangle is 52 cm, find the length of the longest side of the triangle.	23 處暑 α and β are the roots of the equation $x^2 - x - 11 = 0$. Find the value of $\alpha^3 + 12\beta$.	24 廿二 The lengths of the sides of a right-angled triangle form an arithmetic sequence. If the length of the hypotenuse is 10, find its perimeter.	25 廿三  A semi-circle with radius 2.5 is inscribed in a right-angled triangle ABC with centre O lying on the hypotenuse AC of length $10\sqrt{3}$. Find the area of $\triangle ABC$.	26 廿四  AB is a tangent to the circle at T . O is the centre, $AODC$ is a straight line with $OD = CD$, $\angle CBD = 32^\circ$ and $\angle BAC = x^\circ$. Find the value of x .	27 廿五 Given that $xyz = -555$, where x, y and z are distinct integers. $\frac{\min(x+y+z)}{-7} = \underline{\hspace{2cm}}$
28 廿六  The numerals and the letters in the triangle represent the areas of the six smaller triangles. Find the value of $x + y$.	29 廿七 Given that the equation $x^2 - (\sqrt{5} + 28)x + \sqrt{5}n - 29 = 0$ has one positive integral root. Find the value of n .	30 廿八 In $\triangle ABC$, $\frac{\tan A + \tan B}{\tan C} = \frac{2c}{\sqrt{3}b}$ and $A = x^\circ$. Find the value of x .	31 廿九  The figure shows two identical golden triangles (an isosceles triangle with vertical angle 36°). Find the value of x .			