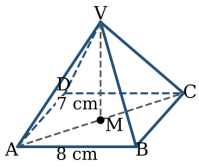
Day 184	S Tier 10-a-day
1 Each interior angle of a regular polygon is 170°. Work out the number of sides of the polygon.	
2 Write these numbers in order of size, starting with the smallest. $\frac{1}{3}$, 0.82, 0.59, 30%	
3 Here are five numbers: $x - 1$, 2, x, 4, $x + 2$. The mean of the five numbers is 5. (a) Work out the value of x. (b) Work out the range of the five numbers.	
4 $f(x) = 3x + 2$ and $g(x) = \frac{6}{x}$ (a) Find gf(x). (b) Solve $gf(x) = \frac{6}{11}$	
5 A flight leaves London at 15:40 (London time). It takes 9 hours 50 minutes. When it is 12:00 in London it is 20:00 in Tokyo. At what time, in Tokyo time, does the flight land? Say if it is on a different day.	

Day 184	S Tier 10-a-day

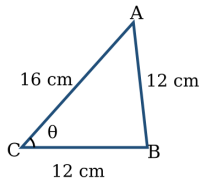
6 The sum of the squares of two consecutive positive integers is 61.
Let the smaller integer be n.
(a) Show that $n^2 + n - 30 = 0$
(b) Work out the two integers.

7 VABCD is a pyramid on a square base. V is directly above the centre M. (Calculator)
(a) Work out AC as a simplified surd.
(b) Work out the angle between VA and the base, to 1 d.p.
The diagram is not drawn accurately.



8 A train travels at a constant speed of 36 km/h.
It takes 45 seconds to go completely through a tunnel which is 170 m long.
Work out the length of the train, in metres.

9 The diagram shows triangle ABC. (Calculator)
(a) Work out angle ACB, marked θ, to 1 decimal place.
(b) Work out the area of triangle ABC to 3 significant figures.
The diagram is not drawn accurately.



10 a = 1.13 and b = 7.91, both correct to 3 significant figures.
Work out a ÷ b.
Write down your answer to a suitable degree of accuracy.
You must show your working and give a reason for your answer. (Calculator)