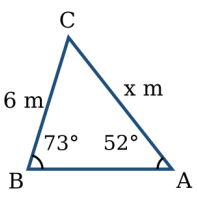
Day 240	A Tier 10-a-day
1 A is the point (4, −4) and B is the point (−5, 8). (a) Find the midpoint of AB. (b) Work out the length of AB. Give your answer as a whole number.	
2 Change 30000 cm^2 to m^2.	
3 By rounding each number to 1 significant figure, estimate the value of $\frac{6.2 \times 7.5}{0.54}$	
4 Solve the simultaneous equations $-3x + 2y = 18$ $-3x - 2y = 6$	
5 Work out the value of x. (Calculator) Give your answer to 3 significant figures. The diagram is not drawn accurately. 	

Day 240 **A Tier 10-a-day**

6 The table shows the distances, in km, travelled by 25 lorries.
(a) Write down the class that contains the median.
(b) Work out an estimate for the mean.

Distance, d (km)	Frequency
$10 < d \leq 20$	8
$20 < d \leq 30$	3
$30 < d \leq 40$	4
$40 < d \leq 50$	7
$50 < d \leq 60$	3

7 A solid is made from a cylinder and a cone.
The cylinder has radius 9 cm and height 10 cm.
The cone has the same radius as the cylinder and perpendicular height 4 cm.
Work out the total volume. Give your answer in terms of π.

8 The value of a painting increases by 10% each year. (Calculator)
After 3 years it is worth £15,972.
Work out its value at the start.

9 (a) Write 27 and 99 as products of prime factors.
(b) Find the highest common factor (HCF) and the lowest common multiple (LCM) of 27 and 99.

10 The point P(12, 5) lies on a circle with centre O(0, 0).
(a) Work out the equation of the circle, in the form $x^2 + y^2 = r^2$.
(b) Find the equation of the tangent to the circle at P.