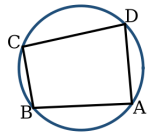
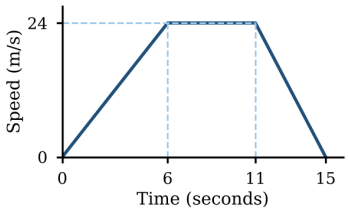
Day 363	S Tier 10-a-day
1 Make l the subject of $T = 6l^3 + 8$	
2 Write these numbers in order of size, starting with the smallest. 0.57, 0.6, $\frac{1}{5}$, 52%	
3 A, B, C and D are points on a circle. Angle DAB = $(4x - 20)°$, angle BCD = $(2x + 38)°$ and angle ABC = $(3x)°$. (a) Work out the value of x. (b) Work out the size of angle ADC. The diagram is not drawn accurately. 	
4 The graph shows the speed of a train during 15 seconds. (a) Work out the acceleration during the first 6 seconds. (b) Work out the average speed over the whole 15 seconds. 	
5 The point P(12, −4) lies on the graph of y = f(x). Write down the coordinates of the image of P on the graph of (a) $y = \frac{1}{2}f(x)$ (b) $y = f(x) - 2$	

Day 363	S Tier 10-a-day
6 P is 40% less than A. A is 30% less than D. Work out P as a percentage of D.	
7 A right-angled triangle has hypotenuse 15.0 cm and one other side 7.3 cm, both correct to 1 decimal place. (Calculator) Work out the lower bound of the length of the third side. Give your answer correct to 3 significant figures.	
8 An alloy is made by mixing 60 cm^3 of nickel with 100 cm^3 of lead. The density of nickel is 8.9 g/cm^3. The density of lead is 11.3 g/cm^3. Work out the density of the alloy.	
9 $N = 2^5 \times 3^2$ How many of the factors of N are odd numbers?	
10 A train travels at a constant speed of 108 km/h. It takes 45 seconds to go completely through a tunnel which is 1,060 m long. Work out the length of the train, in metres.	