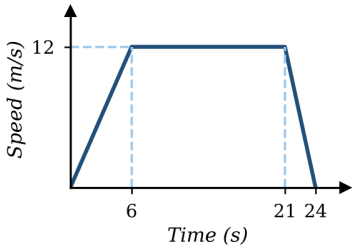
Day 124	IGCSE 10-a-day
1 £5,000 is invested at 10% per year compound interest. Work out the least whole number of years after which the investment is worth more than £12,500. (Calculator)	
2 A bag contains balloons. $\frac{1}{6}$ of the balloons are pink and $\frac{3}{5}$ of the balloons are silver. The rest of the balloons, 28 of them, are gold. How many silver balloons are there?	
3 A metal pipe is a hollow cylinder with outer radius 6 cm and inner radius 5 cm. (Calculator) The density of the metal is 8.5 g/cm^3. The mass of the pipe is 14.7 kg. Work out the length of the pipe. Give your answer in centimetres correct to 3 significant figures.	
4 $f(x) = 2x^3 - 54x - 4$ Find the y coordinate of the local maximum point and the y coordinate of the local minimum point.	
5 The graph shows the speed of a train between two stations. (a) Work out the acceleration in the first 6 seconds. (b) Work out the total distance. 	

Day 124	IGCSE 10-a-day
6 The value of a car is decreased by 10%. The new amount is then decreased by 10%. Work out the overall percentage change.	
7 Two curves have equations $y = 3x^2 - 6x + 5$ and $y = x^2 + 6x - 2$. Find the value of x at which the curves have the same gradient.	
8 A circle has equation $x^2 + y^2 = 169$. The point P(−5, 12) lies on the circle. (a) Find the equation of the tangent to the circle at P. Give your answer in the form ax + by = c, where a, b and c are integers. (b) The tangent meets the x-axis at the point T. Write down the coordinates of T.	
9 A curve has equation $y = (x + 1)(x - 3)(x - 4)$. Work out the gradient of the curve at each point where it crosses the x-axis.	
10 The Venn diagram shows information about 39 customers. A: ordered tea B: ordered coffee (a) Find n(A′). (b) Find n(A ∪ B)′. 