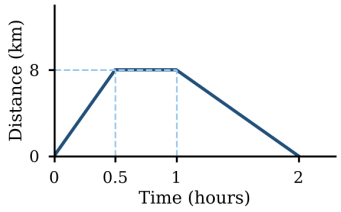
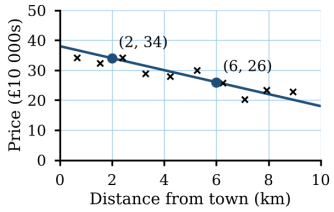
Day 350 **IGCSE 10-a-day**

1 The graph shows Hassan's cycle ride to a café and back.
(a) Work out Hassan's speed on the way back.
(b) Work out Hassan's average speed for the whole ride, including the stop.



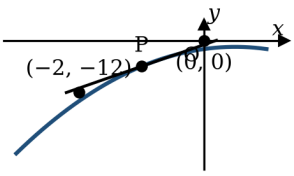
2 ABC is an isosceles triangle with AB = AC.
Angle BAC = (4x)°
Angle ABC = (x + 15)°
(a) Work out the value of x.
(b) Work out the size of angle BAC.

3 The scatter graph shows distance from town (x) and price (y).
The line of best fit passes through (2, 34) and (6, 26).
(a) Find its equation in the form y = mx + c.
(b) Explain what its gradient tells you.



4 A curve has equation $y = x^2 - 6x + 1$.
Find the equation of the tangent to the curve at the point where $x = -3$.

5 Solve $5x^2 - 6x - 4 = 0$
Give your answers in surd form.

Day 350	IGCSE 10-a-day
6 T is directly proportional to the square of m. When m = 3, T = 18. When m = 4, T = a. When m = b, T = 200. Work out the values of a and b.	
7 The diagram shows part of the curve $y = -2x^2 + 2x - 2$. The line shown is the tangent to the curve at the point P. (Not drawn accurately.) (a) Use the two marked points on the tangent to work out its gradient. (b) Use differentiation to find the x coordinate of P. 	
8 $\mathbf{OA} = -\mathbf{b}$, $\mathbf{OB} = 4\mathbf{a} + 3\mathbf{b}$ and $\mathbf{OC} = -2\mathbf{a} - 3\mathbf{b}$. Show that A, B and C lie on a straight line.	
9 The curves $y = 2x^2 - 5x + 4$ and $y = 4x^2 - 17x + 22$ touch at one point. Find the coordinates of this point and the equation of the common tangent.	
10 Show that $3^{n+3} - 3^n$ is a multiple of 26 for all integer values of n.	