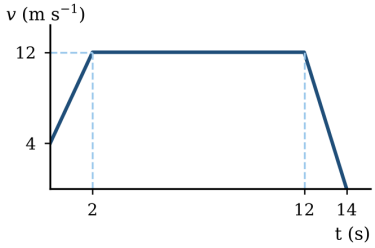
Day 334	A Level Maths: C Tier 10-a-day
1 Differentiate with respect to x: (a) $2 \ln x$ (b) $2 e^{5x}$	
2 A circle has centre $(-3, -5)$ and passes through the point $(1, -6)$. Find the equation of the circle.	
3 For 8 values, $\Sigma x = 176$ and $\Sigma x^2 = 3936$. Find the mean and the standard deviation.	
4 A curve has parametric equations $x = 4t + 2$, $y = t^2 + 4$. The point P has y-coordinate 8 and positive t. Find the coordinates of P.	
5 Two forces of magnitudes 12 N and 5 N act on a small ring at right angles to each other. Find (a) the magnitude of the resultant, (b) the angle it makes with the 12 N force, to 1 d.p.	

Day 334 **A Level Maths: C Tier 10-a-day**

6 The times, X minutes, taken to complete a puzzle are modelled by N(60, 6^2).
Find P(X > 69) to 3 s.f.

7 Given that dy/dx = 4xy and y = 2 when x = 0, find y in terms of x.

8 The graph shows the velocity of a runner.
(a) Find the acceleration in the first 2 s.
(b) Find the deceleration in the last 2 s.
(c) Find the total distance travelled.



9 Solve $\cos(x + 30°) = -\frac{1}{2}$ for $0° \leq x \leq 360°$.

10 Solve $-x - 5 < 4$.