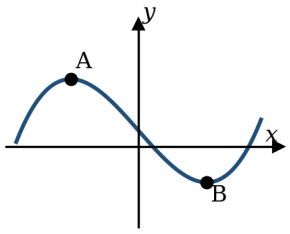
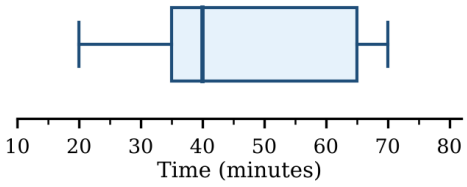
Day 67	A Level Maths: C Tier 10-a-day
1 A particle moves in a straight line with constant acceleration 1.5 m s^{-2}. Its initial speed is 1 m s^{-1}. Find the distance travelled in 3 s.	
2 Solve $\cos x = -\frac{1}{2}$ for $0° \leq x \leq 360°$.	
3 The number of events in one interval has a Poisson distribution with mean 2. Find the probability of at most 1 in one such interval, to 3 s.f.	
4 Solve $x^{\frac{6}{3}} = 64$.	
5 The diagram shows the curve $y = x^3 - 12x + 5$. A and B are turning points. Find the coordinates of A and B. 	

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6 Find the range of values of k for which $kx^2 + 10x + 1 = 0$ has real roots.

7 A particle slides down a rough plane inclined at angle α to the horizontal, where $\sin\alpha = \frac{3}{5}$ and the coefficient of friction is 0.5. Take g = 9.8 m s^{-2}. Find the acceleration.

8 The box plot summarises the delivery times, in minutes, of a pizza company.
Find the range and the interquartile range.



9 The line $y = 4x + k$ is a tangent to the curve $y = x^2 + 8x - 2$.
Find the value of k.

10 Use the quotient rule to find the derivative of $y = \frac{x}{x+5}$.