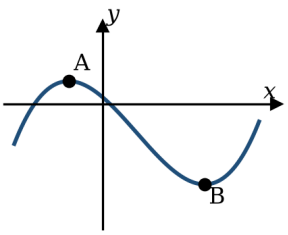
Day 74	A Level Maths: C Tier 10-a-day
1 Simplify $\sqrt{4x^2} \times 2$.	
2 A particle moves in a straight line with constant acceleration. Its speed increases from 8 m s^{-1} to 22 m s^{-1} as it travels 52.5 m. Find the acceleration.	
3 Expand and simplify $(5 + \sqrt{2})^2$.	
4 Here are 5 values: 20, 18, 15, 12, 4 Find the mean and the standard deviation, to 3 s.f.	
5 Use $\sin\theta \approx \theta$ to estimate sin 2°, giving your answer to 3 significant figures.	

Day 74	A Level Maths: C Tier 10-a-day
6 Car P passes a point O at constant speed 26 m s^{-1}. At that instant car Q starts from rest at O with constant acceleration 4 m s^{-2} in the same direction. Find the time when Q catches up P.	
7 Expand $(1 + 2x)^{-2}$ in ascending powers of x up to and including the term in x^2. State the range of values of x for which the expansion is valid.	
8 The diagram shows the curve $y = x^3 - 3x^2 - 9x + 2$. A and B are turning points. Find the coordinates of A and B. 	
9 The probability that it rains is 0.6. If so, the probability that Sam is late is 0.8; otherwise it is 0.3. Given that Sam is late, find the probability that it rains.	
10 Use a double angle formula to find $\int \cos^2 x \, dx$.	