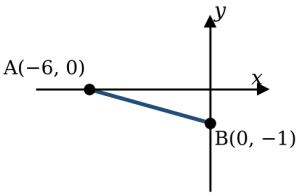
Day 133	A Level Maths: C Tier 10-a-day
1 The diagram shows a line meeting the axes at A and B. Find (a) the equation of AB in the form px + qy = r with integers p, q and r, (b) the length AB.  	
2 In an exam question, wind is ignored in a model of a falling coin. State what this assumption means for the motion or forces in the model.	
3 Expand and simplify $(7 - \sqrt{6})(1 + \sqrt{6})$.	
4 A particle moving in a straight line with constant acceleration 4 m s^{-2} travels 42 m in 3 s. Find its initial speed.	
5 Solve 2 sin x = 1 for $0 \leq x \leq 2\pi$. Give your answers to 3 significant figures.	

Day 133	A Level Maths: C Tier 10-a-day
6 The probability that it rains is 0.4. If so, the probability that Sam is late is 0.8; otherwise it is 0.2. Given that Sam is late, find the probability that it rains.	
7 Use the product rule to differentiate $y = x^2 \cos 2x$.	
8 Solve $\|x - 1\| \leq 1$.	
9 For events A and B, P(A) = 0.25, P(B) = 0.4 and $P(A \cup B) = 0.45$. (a) Find $P(A \cap B)$. (b) Find $P(A' \cap B')$.	
10 Solve $\log x + \log (x - 3) = \log 10$, $x > 3$.	