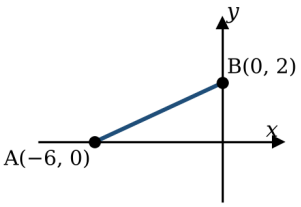
Day 265	A Level Maths: C Tier 10-a-day
1 $X \sim N(20, 10^2)$ and $P(X > 35) = 0.07$. Find $P(5 < X < 35)$.	
2 A train moving in a straight line increases its speed from 7 m s^{-1} to 21 m s^{-1} with constant acceleration 1 m s^{-2}. Find the time taken.	
3 Write down the exact values of (a) sec 240° (b) cosec 240°	
4 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. 	
5 Use the product rule to differentiate $y = x^2 \ln x$.	

Day 265	A Level Maths: C Tier 10-a-day
6 Use proof by exhaustion to show that $n^3 - n$ is divisible by 6 for every integer n with $1 \leq n \leq 5$.	
7 f(x) = 3 sin x + 4 cos x + 4. Write f(x) in the form R sin(x + α) + 4, with α in degrees to 1 d.p., and state the maximum value of f(x).	
8 The line y = 4x + k is a tangent to the curve $y = x^2 + 6x$. Find the value of k.	
9 X ~ B(25, p). H_0: p = 0.2, H_1: p > 0.2. Find the critical region for a test at the 10% significance level.	
10 Two forces of magnitudes 8 N and 15 N act on a bead at right angles to each other. Find (a) the magnitude of the resultant, (b) the angle it makes with the 8 N force, to 1 d.p.	