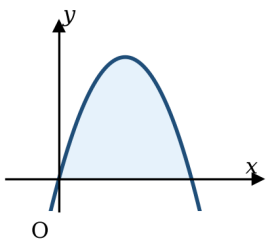
Day 131	A Level Maths: C Tier 10-a-day
1 Write 3 log 2 + log 5 − log 10 as a single logarithm, giving it in the form log N where N is an integer.	
2 A stratified sample of size 21 is taken from 189 members: 108 Under 30, 81 30 to 50. How many 30 to 50 should be in the sample?	
3 Simplify $(2x)^2 \div 4x$.	
4 The diagram shows the curve y = 3x(2 − x). Find the area of the shaded region, between the curve and the x-axis. 	
5 X ~ B(40, p) and E(X) = 4. Find p and Var(X).	

Day 131	A Level Maths: C Tier 10-a-day
6 Solve $\|x - 6\| \geq 5$.	
7 A particle moves in a straight line. Its velocity at time t seconds is v m s^{-1}, where $v = 2t^2 - 12t$. (a) Find its acceleration when t = 3. (b) Find the time when its acceleration is zero.	
8 Use the product rule to differentiate $y = e^{2x} \sin 4x$.	
9 Express $\frac{4x + 5}{(x + 2)^2}$ in the form $\frac{A}{(x + 2)} + \frac{B}{(x + 2)^2}$.	
10 Two cyclists start at the same time from points X and Y, 66 m apart, and cycle directly towards each other at constant speeds of 12 m s^{-1} and 10 m s^{-1}. Find the time until they meet.	