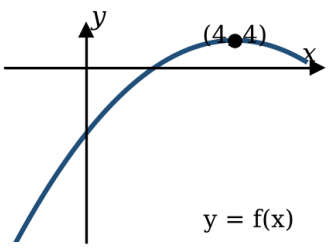
Day 355	A Level Maths: C Tier 10-a-day
1 Solve $2x + 6 < x + 4$.	
2 Solve (a) $e^x = 3$ (b) $\ln x = 2.5$ Give answers to 3 significant figures.	
3 A car decelerates uniformly from 16 m s^{-1} to rest in 8 s. Find (a) the deceleration, (b) the distance travelled while decelerating.	
4 X ~ B(13, 0.7). Find P(X = 11), giving your answer to 3 s.f.	
5 A constant force of 20 N pulls a crate 8 m along rough horizontal ground against a constant frictional force of 10 N. Find (a) the work done by the pulling force, (b) the work done against friction.	

Day 355 **A Level Maths: C Tier 10-a-day**

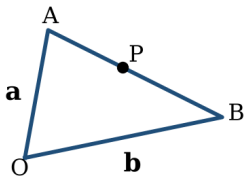
6 The diagram shows the curve y = f(x). The maximum point is shown. Write down the coordinates of the maximum point on the curve with equation
(a) y = f(x + 2) (b) y = f(x) + 2



7 Use integration by parts to find
$\int x\, e^{4x}\, dx$.

8 Sketch y = |2x + 1|. Write down the coordinates of the vertex and of the point where the graph meets the y-axis.

9 In the diagram, OA = **a**, OB = **b**, and P lies on AB with AP : PB = 3 : 4.
Find AB and OP in terms of **a** and **b**.



10 For 7 data pairs, with advertising spend (£s hundreds) from 12 to 22, the regression line is S = 15 + 6a.
Estimate sales (£s thousands) when a = 21 and comment on the reliability.