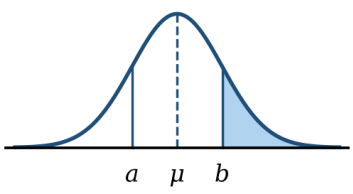
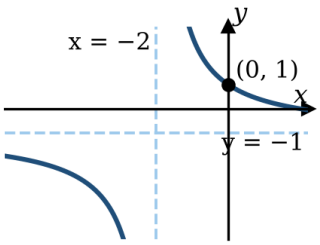
Day 139	A Level Maths: C Tier 10-a-day
1 A car of mass 500 kg is driven along a straight horizontal road by a driving force of 1350 N against a constant resistance of 600 N. Find the acceleration of the car.	
2 A is acute and $\cos A = \frac{4}{5}$. Find the exact values of sin 2A and cos 2A.	
3 Here are 7 values: 32, 6, 30, 79, 52, 42, 59 Find the median and the interquartile range.	
4 Solve $x^2 + x - 12 \leq 0$.	
5 The diagram shows the density of X ~ N(60, 5^2). a and b are equal distances from the mean. The shaded area, P(X > b), is 0.24. Find P(a < X < b).  	

Day 139 **A Level Maths: C Tier 10-a-day**

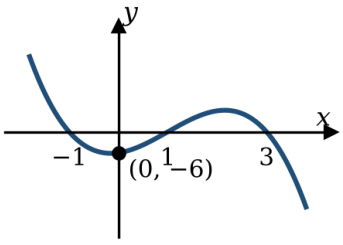
6 The diagram shows the graph of $y = \frac{k}{x - a} + c$ with its asymptotes. Find the values of a, c and k.



7 A car of mass 1200 kg tows a caravan of mass 600 kg on a level road with acceleration 0.5 m s^{-2}. Resistances: 400 N on the car, 150 N on the caravan. Find the driving force and the tow bar tension.

8 f(x) = 12 sin x + 9 cos x + 6.
Write f(x) in the form R sin(x + α) + 6, with α in degrees to 1 d.p., and state the maximum value of f(x).

9 The diagram shows the curve y = f(x), where f(x) is a cubic. Find f(x) in the form k(x − a)(x − b)(x − c).



10 Use the substitution u = sin x to find
$\int 3 \cos x \sin^3 x \, dx$.