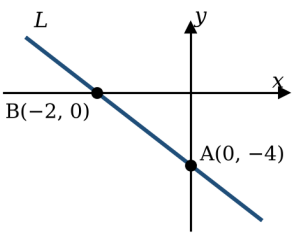
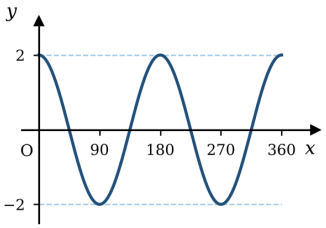
Day 336	IGCSE 10-a-day
1 40 fish in a lake are caught, tagged and put back. Later, a second sample of 20 fish is caught. 4 of these are tagged. (a) Work out an estimate for the number of fish in a lake. (b) State one assumption you have made.	
2 $y = x(x + 3)(3x - 1)$ Work out the gradient of the curve at the point where $x = 0$.	
3 $f(x) = \frac{5x - 5}{4x + 3}$, $x \neq -\frac{3}{4}$. Find $f^{-1}(x)$.	
4 A curve has equation $y = 2x^2 - 5x + 5$. Find the equation of the tangent to the curve at the point where $x = -3$.	
5 The diagram shows the straight line L, which passes through the points A and B. The line M is perpendicular to L and passes through B. Find the equation of M in the form $y = mx + c$. 	

Day 336 **IGCSE 10-a-day**

6 The diagram shows the graph of $y = a \cos bx$, where a and b are positive integers.
(a) Write down the value of a and the value of b.
(b) Work out the value of y when $x = 45°$.



7 $f(x) = 2x^3 - 6x^2 - 3$ for $-2 \leq x \leq 4$.
Find the greatest value and the least value of f(x) on this interval.

8 Evan and Callum share some money in the ratio 8 : 9.
Evan gives Callum £26.
The ratio of their money is now 3 : 5.
How much money do they have altogether?

9 A metal block has a mass of 1200 g, correct to the nearest 100.
Its volume is 95 cm^3, correct to the nearest whole number.
Work out the lower bound of the density.
Give your answer correct to 3 significant figures. (Calculator)

10 A sequence is defined by $u_{n+2} = u_{n+1} + u_n$.
$u_1 = 5$ and $u_2 = x$.
(a) Show that $u_5 = 3x + 10$.
(b) Given that $u_5 = 19$, find x and hence work out u_8.