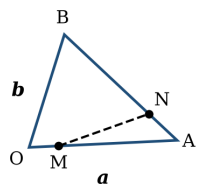
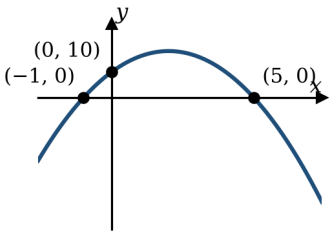
Day 109	S Tier 10-a-day
1 Solve $7 \sin x - 6 = 0$ for $0° \leq x \leq 360°$. (Calculator) Give your answers correct to 1 decimal place.	
2 Solve $4x^2 + 14 = -15x$	
3 The HCF of two numbers is 5 and their LCM is 70. The smaller number is 10. Work out the larger number.	
4 P is inversely proportional to the cube of t. When t = 4, P = 2. Find the positive value of t when P = 16.	
5 OAB is a triangle. OA = **a** and OB = **b**. M is on OA with OM : MA = 1 : 4. N is on AB with AN : NB = 1 : 3. (a) Find ON in terms of **a** and **b**. (b) Find MN in terms of **a** and **b**. The diagram is not drawn accurately. 	

Day 109	S Tier 10-a-day

6 The diagram shows a sketch of a quadratic curve. It crosses the axes at the points shown.
Find an equation of the curve.
Give your answer in the form $y = ax^2 + bx + c$.



7 Solve $2^{2x-2} = 8^4$

8 A population is increased by x% in one year and then increased by a further x% the next year.
Over the two years the population increases by 125%.
Work out the value of x.

9 Solve the simultaneous equations
$-3x + 4y = 31$
$-3x + 6y = 45$

10 Isla and Carlos play a match. The first to win 2 table tennis games wins the match.
The probability that Isla wins any one of the table tennis games is $\frac{3}{10}$.
Work out the probability that Isla wins the match.