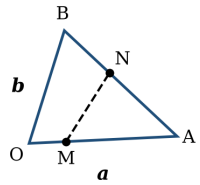
Day 262	IGCSE 10-a-day
1 Each interior angle of a regular polygon is 17 times the size of each exterior angle. Work out the number of sides of the polygon.	
2 Solve the simultaneous equations $-3x + y = 1$ $3x + 5y = -13$	
3 OAB is a triangle. OA = **a** and OB = **b**. M is on OA with OM : MA = 1 : 3. N is on AB with AN : NB = 3 : 2. (a) Find ON in terms of **a** and **b**. (b) Find MN in terms of **a** and **b**. The diagram is not drawn accurately. 	
4 $f(x) = 2x^2 - 12x - 6$ Use differentiation to find the coordinates of the turning point of the graph of $y = f(x)$. State whether it is a maximum or a minimum.	
5 A sequence is defined by $u_{n+2} = u_{n+1} + u_n$. $u_1 = 3$ and $u_2 = x$. (a) Show that $u_5 = 3x + 6$. (b) Given that $u_5 = 24$, find x and hence work out u_8.	

Day 262	IGCSE 10-a-day
6 The edge length of a cube is increased by 50%. Work out the percentage change in the volume of the cube.	
7 A rectangle has area 52 cm^2, correct to 2 significant figures. Its length is 7.900000000000000355271367880050092935562133789062 5 cm, correct to 2 significant figures. Work out the upper bound of the width of the rectangle. Give your answer correct to 3 significant figures. (Calculator)	
8 A curve has equation $y = x^4 - 2x^2 + 2$. Find the coordinates of the stationary points of the curve and determine the nature of each.	
9 The population of a town grows by 20% each year. After 2 years the population is 18,000. Work out the population 2 years ago. (Calculator)	
10 The normal to the curve $y = -x^2 - 3x + 4$ at the point P where $x = -2$ meets the curve again at Q. Find the coordinates of Q.	