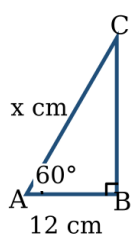
Day 181	IGCSE 10-a-day
1 n is an integer. Work out the sum of all the values of n that satisfy $2 < 3n - 5 < 15$	
2 The positive numbers x and y satisfy $x + y = 18$. Find the greatest possible value of x^2y, showing that it is the greatest.	
3 A rectangle has length 5.7 cm and width 6.4 cm, both correct to 1 decimal place. Work out the lower bound of the perimeter of the rectangle.	
4 $y = \frac{(4x + 2)^2}{x}$ Find $\frac{dy}{dx}$.	
5 ABC is a right-angled triangle. Work out the exact value of x. Give your answer in its simplest form. The diagram is not drawn accurately. 	

Day 181	IGCSE 10-a-day
6 Solve $\frac{1}{x-5} + \frac{5}{x+2} = \frac{1}{2}$	
7 In a group of students, 40% are boys and the rest are girls. 60% of the boys and 20% of the girls walk to school. What percentage of all the students walk to school?	
8 The value of a house increases by 25% each year. After 2 years it is worth £13,281.25. Work out its value 2 years ago. (Calculator)	
9 $\mathbf{p} = \begin{pmatrix} 8 \\ 15 \end{pmatrix}$. Find a vector of length 51 that is parallel to $\mathbf{p}$.	
10 A curve has equation $y = 2x^4 - 36x^2 + 3$. Find the coordinates of the stationary points of the curve and determine the nature of each.	