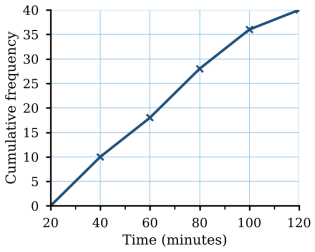
Day 251	B Tier 10-a-day
1 Work out (a) $\frac{4}{5} \times \frac{1}{2}$ (b) $\frac{2}{5} \div \frac{2}{3}$ Give each answer in its simplest form.	
2 A rectangle has length (4x + 4) cm and width (4x + 2) cm. Write down an expression, in terms of x, for the perimeter of the rectangle. Give your answer in its simplest form.	
3 Write 56.9264 (a) correct to 2 decimal places, (b) correct to 3 significant figures.	
4 Solve $\frac{3x + 9}{4} = 3$	
5 $\mathbf{a} = \begin{pmatrix} 2 \\ -6 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} 3 \\ 7 \end{pmatrix}$ Work out (a) $3\mathbf{a} + \mathbf{b}$ (b) $3\mathbf{a} - \mathbf{b}$	

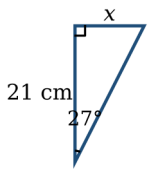
Day 251 **B Tier 10-a-day**

6 Matchsticks are used to make a row of triangles.
1 triangle needs 3 matchsticks, 2 triangles need 5 and 3 triangles need 7.
(a) Find an expression, in terms of n, for the number of matchsticks needed for n triangles.
(b) Dan uses 43 matchsticks to make a row.
How many triangles are in his row?

7 The cumulative frequency graph shows the times taken by 40 students to complete a puzzle.
(a) Use the graph to estimate the median.
(b) Work out an estimate for the interquartile range.



8 Calculate the length of x. (Calculator)
Give your answer correct to 1 decimal place.
The diagram is not drawn accurately.



9 The price of a laptop is £80.
The price is first reduced by 25%, then the new price is increased by 5%.
(a) Work out the final price.
(b) Work out the overall percentage decrease in the price.

10 y is directly proportional to x.
When x = 12, y = 60.
Find the value of y when x = 9.