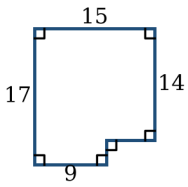
Day 291 **B Tier 10-a-day**

1 A scooter travels 75 km at an average speed of 30 km/h.
How long does the journey take?
Give your answer in hours and minutes.

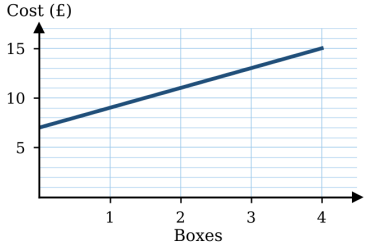
2 Write 189 as a product of its prime factors.
Give your answer in index form.

3 The diagram shows the shape of a playground.
All the corners are right angles. All lengths are in m.
(a) Work out the perimeter.
(b) Work out the area.



4 Dev and Ben share 126 sweets in the ratio 5 : 4.
Work out how many Dev gets.

5 A printing company charges a set-up fee plus a cost for each box of leaflets.
The graph shows the total cost.
(a) Write down the fixed charge.
(b) Work out the cost for each box.

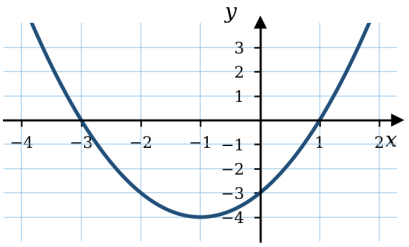


Day 291 **B Tier 10-a-day**

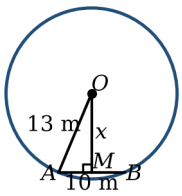
6 The ratio of cats to dogs among the pets at a rescue centre is 7 : 5.
There are 35 cats.
How many dogs are there?

7 Triangle ABC has angles of 45°, 80° and 55°.
Triangle DEF has angles of 45°, 80° and 55°.
Its sides are twice as long as those of triangle ABC.
Are the two triangles congruent?
Give a reason for your answer.

8 The diagram shows the graph of
$y = x^2 + 2x - 3$
(a) Write down the solutions of $x^2 + 2x - 3 = 0$
(b) Write down the coordinates of the minimum point of the graph.



9 A circle has centre O and radius 13 m.
AB is a chord and M is the midpoint of AB. OM is perpendicular to AB.
Work out the value of x.
The diagram is not drawn accurately.



10 The length of a rectangle is 22 cm and its width is 13 cm.
Both measurements are correct to the nearest cm.
Work out the upper bound for the perimeter of the rectangle.