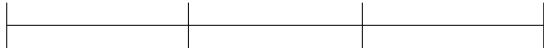# Higher (Grade 4-6) GCSE Mini Test 3

1 Dani leaves her house at 08 00.
She drives 56 miles to work.
She drives at an average speed of 48 miles per hour.

At what time does Dani arrive at work?

2 Liquid **A** has a density of 1.15 g/cm^3
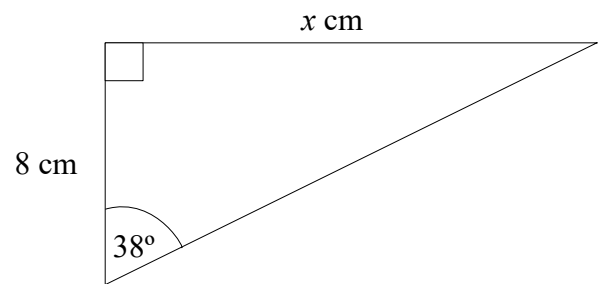
Work out the mass of 150 cm^3 of Liquid **A**.

3 The points A, B, C and D lie in order on a straight line.

AB:BD = 1:3 and AC:CD = 13:9
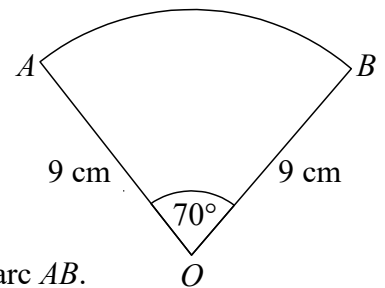
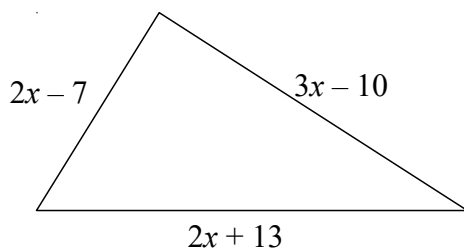Find AB:BC:CD

4

Work out the value of x.

5 Work out $\dfrac{5.52 \times 10^8}{2.4 \times 10^5}$

Give your answer in standard form.

6

Find the length of the arc AB.
Give your answer in terms of π.

7 The perimeter of the triangle is 129 cm.
Work out the value of x.

8 Jerry and Mick share some money in the ratio 2 : 3
Mick gets £300

Work out how much money Jerry gets.

9 Write down the reciprocal of 4

10 3 tins of beans and 4 tins of tomatoes costs £2.23
5 tins of beans costs £1.45

Work out how much one tin of tomatoes costs.

11 Solve the simultaneous equations:

$$x - 3y = 4$$
$$4x + y = -23$$

12 Jo is going to play one tennis match and match of squash.

The probability she will win the tennis match is $\frac{3}{4}$

The probability she will win the squash match is $\frac{3}{5}$

Draw a probability tree to represent this information.

13 The size of each interior angle in a regular polygon is 165°

Work out how many sides the polygon has.

14 Find the highest common factor (HCF) of 64 and 112

15 Find an estimate for the mean time.

Time (minutes)	Frequency
$15 < t \leqslant 17$	4
$17 < t \leqslant 19$	13
$19 < t \leqslant 21$	8
$21 < t \leqslant 23$	5

16 There are 5 starters, 6 main courses and 4 desserts in a restaurant.

Work out the total number of ways of choosing a starter, a main course and a dessert.

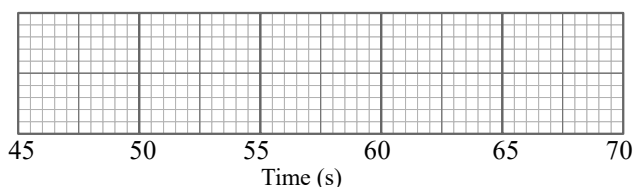**17** Find the value of $\left(\dfrac{9}{25}\right)^{-\frac{3}{2}}$

18 A cube's length is increased by 14%.
Find the increase in the cube's volume.
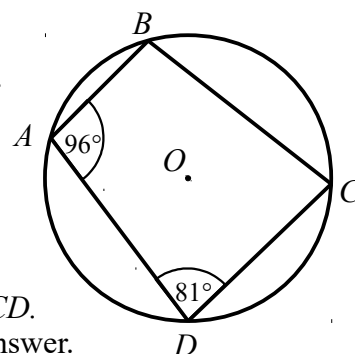
Give your answer to 3 significant figures.

19 The times of 11 runners, in seconds, are recorded below.

49   52   54   57   62   63   64   64   65   65   68

Draw a box plot for this information.

Time (s)

20

Find the size of angle *BCD*.
Give a reason for your answer.