

## Higher (Grade 4-6) GCSE Mini Test 2

**1** A sprinter runs a distance of 400 metres in 44 seconds.

Work out the average speed of the sprinter.

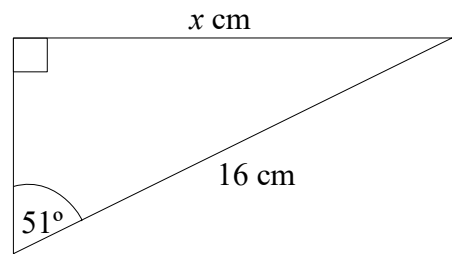
Give your answer to 1 decimal place.

**2** A liquid has a density of 1.2 grams per ml.  
Find the mass of 250 ml of the liquid.

**3** In a class the ratio of boys to girls is 4:3  
30% of the boys are left handed.

What fraction of all the people in the class are left handed boys?

**4**



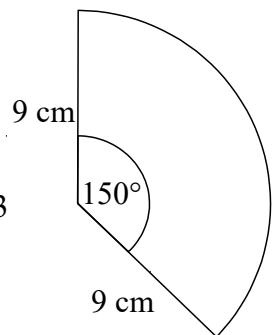
Work out the value of  $x$ .

**5** Write 0.07 in standard form.

**6**

Calculate the area of the sector.

Give your answer correct to 3 significant figures.



**7**

Alex has some marbles.  
Billie has three times as many marbles as Adam.  
Chris has 9 fewer marbles than Billie.

In total they have 68 marbles.  
How many marbles does Alex have?

**8**

Dave is making cookies.  
He mixes flour, butter and sugar in the ratio 4 : 3 : 1

Dave uses 195 grams of butter.  
Work out how much flour and sugar Dave uses.

**9**

Simplify  $6m^4n^2 \times 3m^2n$

**10**

It takes 3 painters 8 days to paint a building.

Work out how many days it would take 2 painters to paint the same building.

**11** Solve the simultaneous equations:

$$5x - 2y = 25$$

$$3x - 4y = 22$$

**12** Hannah is going to play one game of chess and one game of backgammon.

The probability she will win the game of chess is 0.7

The probability she will win the game of backgammon is 0.65

Work out the probability that Hannah will win both games.

**13** The size of each exterior angle in a regular polygon is  $18^\circ$

Work out how many sides the polygon has.

**14** Write 180 as a product of its prime factors.

**15** Work out the mean number of points per game.

Points	Frequency
0	9
10	11
20	18
30	7

**16** There are 25 students in a class. Two students are going to be selected to receive a prize.

How many different pairs of students could be selected?

**17** Find the value of  $\left(\frac{64}{125}\right)^{-\frac{1}{3}}$

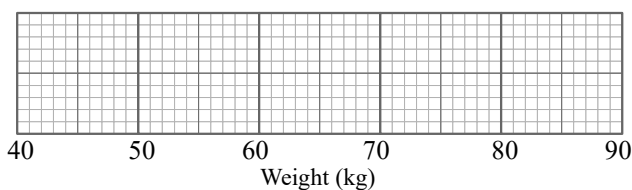
**18** A shop decreases prices by 12% and then by a further 20%.

What is the total percentage reduction in the prices?

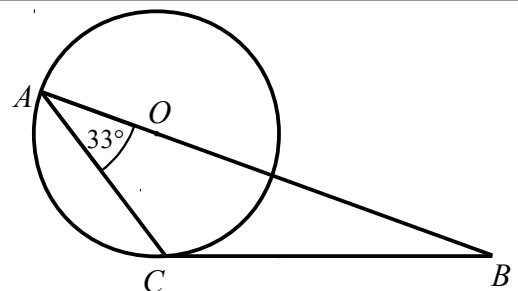
**19** The weights of 11 pigs, in kg, are recorded below.

47 55 59 65 69 71 72 74 80 81 84

Draw a box plot for this information.



**20**



Find the size of angle  $ABC$ .  
You must show all your working.