

Higher (Grade 4-6) GCSE Mini Test 5

- 1** A athlete runs a distance of 1500 metres in 3 minutes and 50 seconds.

Work out the average speed of the athlete.

Give your answer, in metres per second, to 1 decimal place.

$$6.5 \text{ m/s}$$

- 2** A gold coin has a mass of 40 grams and a density of 19.3 grams/cm^3 .

Work out the volume of the gold coin.

Give your answer to one decimal place.

$$2.1 \text{ cm}^3$$

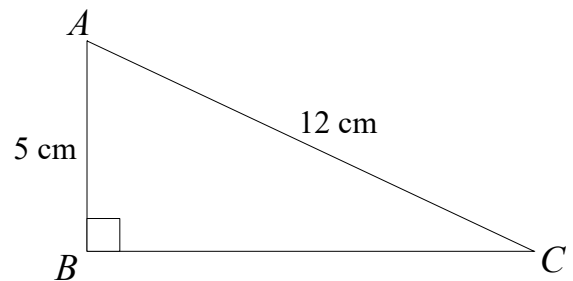
- 3** Given that $a:b = 4:3$ and $b:c = 5:2$

Find the ratio $a:b:c$

Give your answer in its simplest form.

$$20 : 15 : 6$$

- 4**

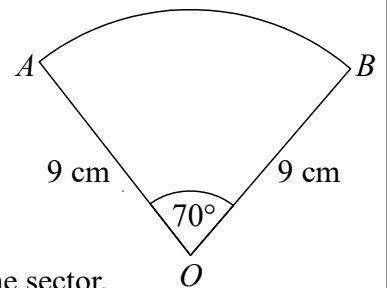


Calculate the size of angle BAC. 65.4° 1dp

- 5** Write 18 500 000 in standard form.

$$1.85 \times 10^7$$

- 6**

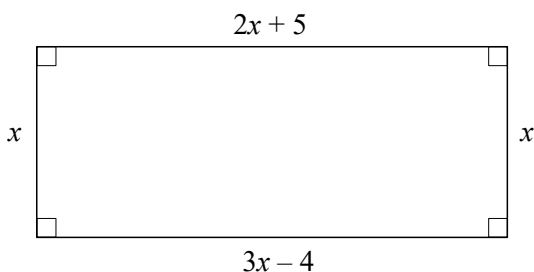


Calculate the area of the sector.

Give your answer correct to 3 significant figures.

$$49.5 \text{ cm}^2$$

- 7** Work out the value of x .



$$x = 9$$

- 8** Will and Olly share £1200 in the ratio 5 : 1

Work out how much each of them get.

$$£1000 : £200$$

- 9** Simplify $d^7 \div d^4$

$$d^3$$

- 10** It costs £0.84 to buy 6 bananas.
Work out how much it would cost to buy 7 bananas.

$$98\text{p}$$

11 Solve the simultaneous equations:

$$\begin{aligned} x + 5y &= -3 \\ 4x + 3y &= 39 \end{aligned}$$

$$x = 12$$

$$y = -3$$

12

Bradley gets the bus on Saturday and Sunday. The probability that Bradley's bus will be late on any day is 0.2

Work out the probability that Bradley's bus is late on at least one of these days.

$$0.36$$

13 Work out the size of each interior angle in a regular decagon (10 sided shape).

$$144^\circ$$

14 Find the lowest common multiple (LCM) of 35 and 49

$$245$$

15 Find an estimate for the mean time.

Time (minutes)	Frequency
$0 < t \leq 10$	8
$10 < t \leq 20$	12
$20 < t \leq 30$	13
$30 < t \leq 40$	7

$$19.75 \text{ mins}$$

16 There are 52 cards in a deck. Angel is going to give one card to Ben and one card to Chris and one card to Dylan.

How many different ways are there of doing this?

$$2652$$

17 Find the value of $8^{-\frac{2}{3}}$

$$\frac{1}{4}$$

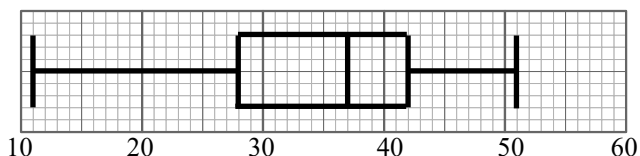
18 A population of bacteria is increasing by 12% each hour.

Find the percentage increase in the population every 3 hours.

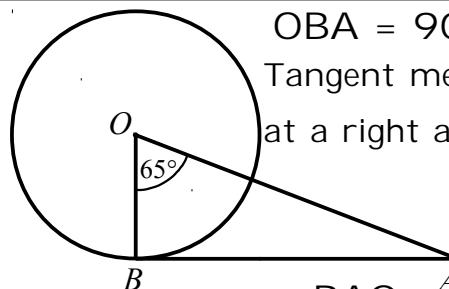
$$40.5\% \text{ (1 dp)}$$

Minimum	Lower Quartile	Median	Upper Quartile	Maximum
11	28	37	42	51

Draw a box plot for this information.



20 $OBA = 90^\circ$
Tangent meets radius at a right angle



$$\underline{BAO = 25^\circ}$$

Work out the size of angle BAO. You must show all your working