

Measure

ANSWERS

Calculator | 30 minutes | Total marks: 31

Name

Class

- 1 (a) A bus leaves at 08:47 and arrives at 11:22
How long is the journey?

Answer 2 h 35 min (1) [1 mark]

- (b) A night shift starts at 21:40 and ends at 06:15 the next morning.
How long is the shift?

21:40 to midnight is 2 h 20 min (1)

Answer 8 h 35 min (1) [2 marks]

- 2 (a) Change 3.06 kg into grams.

Answer 3060 (1) g [1 mark]

- (b) Write these lengths in order. Start with the shortest.

0.45 m 42 cm 405 mm 438 mm

Answer 405 mm, 42 cm, 438 mm, 0.45 m (1) [1 mark]

3

(a) Change 3.5 m^2 into cm^2 Answer 35 000 (1) cm^2 [1 mark](b) Change 640 mm^2 into cm^2 Answer 6.4 (1) cm^2 [1 mark](c) Change 0.8 cm^3 into mm^3 Answer 800 (1) mm^3 [1 mark](d) A floor has an area of 6 m^2

It is covered with rectangular tiles that measure 30 cm by 40 cm.

How many tiles are needed?

$$6 \text{ m}^2 = 60\,000 \text{ cm}^2 \text{ (1)}$$

$$\text{one tile is } 1200 \text{ cm}^2$$

Answer 50 (1) [2 marks]

4

- (a) A ferry sails 42 km in 1 hour 45 minutes.

Work out its average speed.

$$42 \div 1.75 \text{ (1)}$$

Answer 24 (1) km/h [2 marks]

- (b) A horse gallops 600 m in 50 seconds.

A car is driving at 40 km/h.

Which is faster, the horse or the car?

You must show your working.

$$600 \div 50 = 12 \text{ m/s}$$

$$12 \times 3600 \div 1000 = 43.2 \text{ km/h (1)}$$

Answer the horse (1) [2 marks]

5

density = $\frac{\text{mass}}{\text{volume}}$

- (a) A pebble has a mass of 64.8 g and a volume of 24 cm³

Work out the density of the pebble.

$$64.8 \div 24 \text{ (1)}$$

Answer 2.7 (1) g/cm³ [2 marks]

- (b) Silver has a density of 10.5 g/cm³

A silver coin has a mass of 31.5 g.

Work out the volume of the coin.

$$10.5 = \frac{31.5}{\text{volume}} \text{ (1)}$$

Answer 3 (1) cm³ [2 marks]

6

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

- (a) A crate pushes down on the floor with a force of 540 N.

Its base is a rectangle 1.5 m by 0.8 m.

Work out the pressure on the floor.

$$\text{area} = 1.5 \times 0.8 = 1.2 \text{ m}^2 \text{ (1)}$$

Answer 450 (1) N/m² [2 marks]

- (b) A force of 84 N gives a pressure of 35 N/m²

Work out the area.

$$35 = \frac{84}{\text{area}} \text{ (1)}$$

Answer 2.4 (1) m² [2 marks]

7

- (a) A calculator shows 3.4 for a time in hours.

Write this time in hours and minutes.

Answer 3 h 24 min (1) [1 mark]

- (b) Write 2 hours 15 minutes in hours, as a decimal.

Answer 2.25 (1) hours [1 mark]

- (c) 7 friends share a bill of £60 equally.

How much does each friend pay, to the nearest penny?

Answer £ 8.57 (1) [1 mark]

8

A train leaves a station at 10:48

It travels 207 km at an average speed of 92 km/h.

At what time does it arrive?

$$207 \div 92 = 2.25 \text{ hours (1)}$$

$$= 2 \text{ h } 15 \text{ min (1)}$$

Answer 13:03 (1)

[3 marks]

9

Cara cycles 20 km at an average speed of 16 km/h.

She then cycles 25 km in 1 hour 45 minutes.

Work out her average speed for the whole ride.

$$20 \div 16 = 1.25 \text{ hours (1)}$$

$$45 \div (1.25 + 1.75) = 45 \div 3 \text{ (1)}$$

Answer 15 (1)

km/h

[3 marks]

Question	Topic	RAG
1	I can work out a time interval	
2	I can convert metric units	
3	I can convert units of area and volume	
4	I can calculate and compare speeds	
5	I can calculate with density	
6	I can calculate with pressure	
7	I can write calculator answers as money and time	
8	I can use speed to find an arrival time	
9	I can find an average speed for a journey in two parts	