

SPEED AND DENSITY

Pearson Edexcel – Sample Papers - Paper 2 (Calculator) Foundation Tier

1.

26 Axel and Lethna are driving along a motorway.

They see a road sign.

The road sign shows the distance to Junction 8

It also shows the average time drivers take to get to Junction 8

To Junction 8 30 miles 26 minutes

The speed limit on the motorway is 70 mph.

Lethna says

“We will have to drive faster than the speed limit to drive 30 miles in 26 minutes.”

Is Lethna right?

You must show how you get your answer.

(Total for Question 26 is 3 marks)

OCR Thursday 25 May 2017 – Morning (Calculator) Foundation Tier

2.

- 12** Trish and Marc both cycled the same distance.
Trish completed the distance in 2 hours.
Her average speed was 16 miles per hour.
Marc completed the distance in 4 hours.

Find Marc's average speed for the journey.

..... mph [2]

OCR Sample Question Paper 1 – Morning/Afternoon (Calculator) Foundation Tier

3.

- 18** Jo went for a bike ride one evening.
She travelled x kilometres in 5 hours.

Show that her average speed can be written as $\frac{x}{18}$ m/s.

[4]

OCR Sample Question Paper 3 – Morning/Afternoon (Calculator) Foundation Tier

4.

17 180 g of copper is mixed with 105 g of zinc to make an alloy.

The density of copper is 9 g/cm^3 .

The density of zinc is 7 g/cm^3 .

(a) Work out the volume of copper used in the alloy.

(a) cm^3 [2]

(b) What is the density of the alloy?

(b) g/cm^3 [4]

AQA Thursday 4 June 2020 – Morning (Calculator) Foundation Tier

5.

29

A solid piece of silver has
mass 2.625 kilograms
volume 250 cm³

Work out the density of the piece of silver.
Give your answer in grams per cubic centimetre.

[2 marks]

Answer _____ g/cm³

AQA Thursday 6 June 2019 – Morning (Calculator) Foundation Tier

6.

21

Beth drives 200 miles in 4 hours.

She drives the first 18 miles at an average speed of 36 mph

Work out her average speed for the rest of the journey.

[3 marks]

Answer _____ mph

AQA Thursday 11 June 2019 – Morning (Calculator) Foundation Tier

7.

24 Two solids, J and K, have the same density.

Complete the table.

Include units in your answers.

[3 marks]

	J	K
Mass	48 g	78 g
Volume	8 cm ³	
Density		

AQA Tuesday 6 November 2018 – Morning (Non-Calculator) Foundation Tier

8.

7 A helicopter blade does 3206 full turns in 7 minutes.

Work out the number of full turns per minute.

[2 marks]

Answer _____

AQA Tuesday 12 June 2018 – Morning (Calculator) Foundation Tier

9.

13 A car travels 3.5 miles in 5 minutes.

Work out the average speed in miles per hour.

[3 marks]

Answer _____ mph

AQA Wednesday 8 November 2017 – Morning (Calculator) Foundation Tier

10.

21 The distance by road from Newport to London is 140 miles.

Tom travels by coach from Newport to London.
The coach leaves Newport at 1.30 pm

21 (a) He assumes the coach will travel at an average speed of 50 mph

Use his assumption to work out the arrival time in London.

[3 marks]

Answer _____

21 (b) In fact, the coach has a lower average speed.

How does this affect the arrival time?

[1 mark]

AQA Wednesday 8 November 2017 – Morning (Calculator) Foundation Tier

11.

25

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

Work out the **force** when the pressure is 24 N/m^2 and the area is 3 m^2
Circle your answer.

[1 mark]

0.125 N

8 N

27 N

72 N

12.

22 (a) Density = $\frac{\text{mass}}{\text{volume}}$

The mass of solid A is 6 times the mass of solid B.

The volume of solid A is 3 times the volume of solid B.

Complete the sentence.

[1 mark]

The density of solid A is _____ times the density of solid B.

22 (b) Average speed = $\frac{\text{distance}}{\text{time}}$

If the distance is halved and the time is doubled, what happens to the average speed?

Circle your answer.

[1 mark]

$\times 2$

$\times 4$

no change

$\div 2$

$\div 4$