GCSE HIGHER · REVISION MAT 1

Speed, density and pressure

1 A car travels 150 miles in 3 hours.

Find its average speed.

2 A metal has density 2.7 g/cm³.

Find the mass of 40 cm³.

3 Explain why speed = distance ÷ time.

4 A train leaves at 09:45.

It travels 210 km at 84 km/h.

When does it arrive?

5 A force of 600 N acts on an area of 0.25 m².

Show that the pressure is 2400 N/m².

6 Metal A: 300 cm³, density 8 g/cm³.

Metal B: 200 cm³, density 3 g/cm³.

They are melted to make an alloy.

Find its density.

7 Show that 20 m/s is faster than 70 km/h.

8 A cyclist rides 30 km at 15 km/h and returns at 10 km/h.

Find the average speed for the whole trip.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Speed, density and pressure

1 **50 mph**

2 2.7 × 40

108 g

3 **Speed is the distance travelled in each unit of time.**

4 210 ÷ 84 = 2.5 h

12:15

5 600 ÷ 0.25

= 2400 N/m²

6 Mass 2400 + 600 = 3000 g

Volume 500 cm³

6 g/cm³

7 20 × 3600 = 72 000 m/h

72 km/h > 70 km/h

8 Times: 2 h and 3 h

60 km in 5 h

12 km/h

Mr&Mrs MATHS