FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

R11: Compound units

Speed, rates of pay, unit pricing, density and pressure

20 marks · 25 minutes · Calculator allowed

1) A coach travels 210 miles in 3.5 hours. Find its average speed.

..... mph

[Question 1: 1 marks]

2) A cyclist rides at 48 km/h for 2 hours 15 minutes. How far does she travel?

..... km

[Question 2: 2 marks]

3) How long does it take to travel 135 km at 54 km/h? Give your answer in hours and minutes.

.....

[Question 3: 2 marks]

4) Raj is paid £10.40 per hour. How much does he earn for 37.5 hours?

£ .....

[Question 4: 1 marks]

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5) A pack of 6 batteries costs £4.50. A pack of 10 costs £7.20. Which pack is better value? Show your working.

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[Question 5: 2 marks]

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6) A stone has mass 540 g and volume 200 cm^3. Find its density.

..... g/cm^3

[Question 6: 1 marks]

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7) A material has a density of 0.8 g/cm^3. Find the volume of 1.2 kg of it.

..... cm^3

[Question 7: 2 marks]

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8) A force of 450 N is spread over an area of 0.25 m^2. Find the pressure.

..... N/m^2

[Question 8: 1 marks]

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9) A pressure of 200 N/m^2 acts on an area of 3.5 m^2. Find the force.

..... N

[Question 9: 2 marks]

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10) A car travels 40 km at 80 km/h, then 30 km at 60 km/h. Find its average speed for the whole journey.

..... km/h

[Question 10: 3 marks]

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11) Water flows into a tank at 12 litres per minute. How long does it take to fill a 900-litre tank?

..... minutes

[Question 11: 1 marks]

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12) A car uses 1 litre of fuel every 14 km. Fuel costs £1.45 per litre. How much does the fuel cost for a 210 km trip?

£ .....

[Question 12: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	60	B1.
2	108	48 × 2.25 (M1); A1.
3	2 h 30 min	135 ÷ 54 = 2.5 (M1); A1.
4	£390	B1.
5	Pack of 10	75p and 72p each (M1); pack of 10 (A1).
6	2.7	B1.
7	1500	1200 ÷ 0.8 (M1); A1.
8	1800	B1.
9	700	200 × 3.5 (M1); A1.
10	70	Times 0.5 h and 0.5 h (M1); 70 ÷ 1 (M1); A1.
11	75	B1.
12	£21.75	15 litres (M1); A1.