



ACHIEVE ACADEMY

GCSE Maths — Foundation Tier

Compound Measures · Practice Booklet

NAME: _____

CLASS: _____

DATE: _____

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Compound Measures

Total marks available: 70

● Compound Measures

✓ 45 km/h

Q1 · ● Developing · 2 marks

METHOD

Speed = distance ÷ time = $180 \div 4 = 45$ km/h

✓ 75 km/h

Q2 · ● Developing · 2 marks

METHOD

Speed = distance ÷ time = $375 \div 5 = 75$ km/h

✓ 7 g/cm³

Q3 · ● Developing · 2 marks

METHOD

Density = mass ÷ volume = $28 \div 4 = 7$ g/cm³

✓ 3 g/cm³

Q4 · ● Developing · 2 marks

METHOD

Density = mass ÷ volume = $42 \div 14 = 3$ g/cm³

✓ 3 g/cm³

Q5 · ● Developing · 2 marks

METHOD

Density = mass ÷ volume = $15 \div 5 = 3$ g/cm³

✓ 11 g/cm³

Q6 · ● Developing · 2 marks

METHOD

Density = mass ÷ volume = $121 \div 11 = 11$ g/cm³

✓ 3 g/cm³

Q7 · ● Developing · 2 marks

METHOD

$$\text{Density} = \text{mass} \div \text{volume} = 27 \div 9 = 3 \text{ g/cm}^3$$

✓ 70 km/h

Q8 · ● Developing · 2 marks

METHOD

$$\text{Speed} = \text{distance} \div \text{time} = 140 \div 2 = 70 \text{ km/h}$$

✓ 60 km/h

Q9 · ● Developing · 2 marks

METHOD

$$\text{Speed} = \text{distance} \div \text{time} = 180 \div 3 = 60 \text{ km/h}$$

✓ 65 km/h

Q10 · ● Developing · 2 marks

METHOD

$$\text{Speed} = \text{distance} \div \text{time} = 130 \div 2 = 65 \text{ km/h}$$

✓ 2 hours

Q11 · ● Secure · 2 marks

METHOD

$$\text{Time} = \text{distance} \div \text{speed} = 20 \div 10 = 2 \text{ hours}$$

✓ 80 km

Q12 · ● Secure · 2 marks

METHOD

$$\text{Distance} = \text{speed} \times \text{time} = 80 \times 1 = 80 \text{ km}$$

✓2 hours

Q13 · ● Secure · 2 marks

METHOD

$$\text{Time} = \text{distance} \div \text{speed} = 38 \div 19 = 2 \text{ hours}$$

✓100 km

Q14 · ● Secure · 2 marks

METHOD

$$\text{Distance} = \text{speed} \times \text{time} = 100 \times 1 = 100 \text{ km}$$

✓2 hours

Q15 · ● Secure · 2 marks

METHOD

$$\text{Time} = \text{distance} \div \text{speed} = 34 \div 17 = 2 \text{ hours}$$

✓2 hours

Q16 · ● Secure · 2 marks

METHOD

$$\text{Time} = \text{distance} \div \text{speed} = 36 \div 18 = 2 \text{ hours}$$

✓2 hours

Q17 · ● Secure · 2 marks

METHOD

$$\text{Time} = \text{distance} \div \text{speed} = 22 \div 11 = 2 \text{ hours}$$

✓4 hours

Q18 · ● Secure · 2 marks

METHOD

$$\text{Time} = \text{distance} \div \text{speed} = 60 \div 15 = 4 \text{ hours}$$

✓140 km

Q19 · ● Secure · 2 marks

METHOD

Distance = speed $\times$ time = $140 \times 1 = 140$ km

✓4 hours

Q20 · ● Secure · 2 marks

METHOD

Time = distance $\div$ speed = $80 \div 20 = 4$ hours

✓10 cm³

Q21 · ● Greater Depth · 3 marks

METHOD

Volume = mass $\div$ density = $130 \div 13 = 10$ cm³

✓115.2 km/h

Q22 · ● Greater Depth · 3 marks

METHOD

In 1 hour: $32 \times 3600 = 115,200$ m

$115,200$ m $\div$ 1000 = 115.2 km, so 115.2 km/h

✓39.6 km/h

Q23 · ● Greater Depth · 3 marks

METHOD

In 1 hour: $11 \times 3600 = 39,600$ m

$39,600$ m $\div$ 1000 = 39.6 km, so 39.6 km/h

✓198g

Q24 · ● Greater Depth · 3 marks

METHOD

Mass = density $\times$ volume = $11 \times 18 = 198$ g

✓84g

Q25 · ● Greater Depth · 3 marks

METHOD

$$\text{Mass} = \text{density} \times \text{volume} = 12 \times 7 = 84\text{g}$$

✓72 km/h

Q26 · ● Greater Depth · 3 marks

METHOD

$$\text{In 1 hour: } 20 \times 3600 = 72,000 \text{ m}$$

$$72,000 \text{ m} \div 1000 = 72 \text{ km, so } 72 \text{ km/h}$$

✓100.8 km/h

Q27 · ● Greater Depth · 3 marks

METHOD

$$\text{In 1 hour: } 28 \times 3600 = 100,800 \text{ m}$$

$$100,800 \text{ m} \div 1000 = 100.8 \text{ km, so } 100.8 \text{ km/h}$$

✓23 cm³

Q28 · ● Greater Depth · 3 marks

METHOD

$$\text{Volume} = \text{mass} \div \text{density} = 345 \div 15 = 23 \text{ cm}^3$$

✓43.2 km/h

Q29 · ● Greater Depth · 3 marks

METHOD

$$\text{In 1 hour: } 12 \times 3600 = 43,200 \text{ m}$$

$$43,200 \text{ m} \div 1000 = 43.2 \text{ km, so } 43.2 \text{ km/h}$$

✓ 39.6 km/h

Q30 · ● Greater Depth · 3 marks

METHOD

In 1 hour: $11 \times 3600 = 39,600$ m

$39,600 \text{ m} \div 1000 = 39.6 \text{ km}$, so 39.6 km/h