MASTER MATHS GCSE

GCSE Mathematics 9-1

Metric Conversions

(Non-Calculator)

Mark Scheme

Total available marks: 45

Q	Answer	Working	Mark
1	400 cm	1 m = 100 cm 4 × 100 = 400	1
2	70 mm	1 cm = 10 mm 7 × 10 = 70	1
3	3000 m	1 km = 1000 m 3 × 1000 = 3000	1
4	5000 g	1 kg = 1000 g 5 × 1000 = 5000	1
5	2000 ml	1 litre = 1000 ml 2 × 1000 = 2000	1
6	6.5 m	100 cm = 1 m 650 ÷ 100 = 6.5	1
7	8.5 cm	10 mm = 1 cm 85 ÷ 10 = 8.5	1
8	4.2 kg	1000 g = 1 kg 4200 ÷ 1000 = 4.2	1
9	0.75 litres	1000 ml = 1 litre 750 ÷ 1000 = 0.75	1
10	9.5 km	1000 m = 1 km 9500 ÷ 1000 = 9.5	1
11	360 cm	1 m = 100 cm 3.6 × 100 = 360	1
12	800 g	1 kg = 1000 g 0.8 × 1000 = 800	1
13	2450 ml	1 litre = 1000 ml 2.45 × 1000 = 2450	1
14	6000 kg	1 tonne = 1000 kg 6 × 1000 = 6000	1
15	400 cl	1 litre = 100 cl 4 × 100 = 400	1
16	3 mm	1 cm = 10 mm 0.3 × 10 = 3	1

Q	Answer	Working	Mark
17	120 000 cm	Change to metres first: $1.2 \times 1000 = 1200$ m Then to centimetres: $1200 \times 100 = 120\,000$	2
18	45 m	1000 mm = 1 m $45\,000 \div 1000 = 45$	1
19	3250 g	3 kg = 3000 g $3000 + 250 = 3250$	1
20	207 cm	2 m = 200 cm $200 + 7 = 207$ (not 270)	1
21	990 g, 1050 g, 1.2 kg, 1.25 kg	Change them all to grams: 1.2 kg = 1200 g, 1050 g, 1.25 kg = 1250 g, 990 g $990 < 1050 < 1200 < 1250$	2
22(a)	0.06	100 cm = 1 m $6 \div 100 = 0.06$	1
22(b)	0.25	1000 g = 1 kg $250 \div 1000 = 0.25$	1
23	205 cm	Change to the same unit: 1.6 m = 160 cm $160 + 45 = 205$	2
24	No, she needs 450 g but only has 380 g (70 g short)	Change to the same unit: $0.45 \text{ kg} = 0.45 \times 1000 = 450$ g 380 g is less than 450 g	2
25	6 glasses	1.5 litres = 1500 ml $1500 \div 250 = 6$	2
26(a)	7 pieces	3 m = 300 cm $300 \div 40 = 7.5$, so only 7 whole pieces	2
26(b)	20 cm	$7 \times 40 = 280$ cm used $300 - 280 = 20$	1
27	4.6 km	Change to metres: $850 + 1400 + 2350 = 4600$ m $4600 \div 1000 = 4.6$ km	2
28	Yes, total is 539 kg, which is less than 600 kg	0.6 tonnes $= 0.6 \times 1000 = 600$ kg People: $72 + 85 + 64 + 90 + 78 = 389$ kg $389 + 150 = 539$ kg, and $539 < 600$	3

Q	Answer	Working	Mark
29	30 days	0.3 litres $= 0.3 \times 1000 = 300$ ml Each day: $2 \times 5 = 10$ ml $300 \div 10 = 30$	3
30	Not enough water (needs 6 litres, has 5 litres) Enough sugar (needs 750 g, has 1000 g)	Water: $5 \times 1.2 = 6$ litres, but he only has 5 litres Sugar: $5 \times 150 = 750$ g, and 1 kg = 1000 g $750 \text{ g} < 1000 \text{ g}$	3

Total available marks for this paper	**45**