eClassroom

GCSE Mathematics

Unit Conversion

Worked Solutions

Pearson Edexcel GCSE & iGCSE Mathematics

Section A — Foundation — Worked Solutions

[Fluency] Question 1

3.5×1000

∴ **3500 m**

[Fluency] Question 2

450÷100

∴ **4.5 m**

[Fluency] Question 3

2.4×1000

∴ **2400 g**

[Fluency] Question 4

3×60+25

∴ **205 minutes**

[Fluency] Question 5

560÷10

∴ **56 cm**

[Reasoning] Question 6

26.2×1.609

∴ **42.16 km**

[Reasoning] Question 7

5×4.546

∴ **22.73 litres**

[Reasoning] Question 8

×1000 to convert km→m, ÷3600 to convert h→s

72×1000÷3600=72000÷3600

∴ **20 m/s**

[Problem Solving] Question 9

55×1.609

∴ **88.5 km/h**

[Problem Solving] Question 10

Area=400×250=100000m²

100000÷10000

∴ **10 hectares**

Section B — Higher — Worked Solutions

[Fluency] Question 1

1cm=10mm so 1cm²=100mm²

85×100

∴ **8500 mm²**

[Fluency] Question 2

1m=100cm so 1m³=10&sup6;cm³

3.2×10&sup6;

∴

[Fluency] Question 3

$108 \times \frac{1000}{3600}$

∴ **30 m/s**

[Reasoning] Question 4

1g=0.001kg; 1cm=0.01m so 1cm³=10⊃■&sup6;m³

1g/cm³=0.001kg/10⊃■&sup6;m³=1000kg/m³

8×1000

∴ **8000 kg/m³**

[Reasoning] Question 5

1Pa=1N/m²

1m²=10000cm²

So 1N/m²=1/10000N/cm²

50000Pa=50000/10000N/cm²

∴ **5 N/cm²**

[Reasoning] Question 6

$15 \times \frac{3600}{1000}$

∴ **54 km/h**

[Problem Solving] Question 7

2.4L/min×60min/h=144L/h

144÷1000

∴ **0.144 m³/h**

[Problem Solving] Question 8

(*a*) $V = \frac{4}{3}\pi(0.5)^3 = \frac{4}{3}\pi \times 0.125 = \frac{\pi}{6}$ m^3

(b) 1m³=10&sup6;cm³ → V=π/6×10&sup6;≈523599cm³

(c) 523599÷1000≈523.6 litres

∴ **(a) π/6 m³ (b) ≈523 599 cm³ (c) ≈523.6 litres**

[Problem Solving] Question 9

80 miles/gallon

=80×1.609 km per 4.546 L

=128.72/4.546

∴ **28.3 km/litre**

[Problem Solving] Question 10

(a) Total wall area: 4×4×2.5=40m²

Litres=40/12=3.33L

(b) 3.33×1.76=5.87 pints → round up to 6

∴ **(a) 3.33 litres (3■) (b) 6 pints**