

Topic 7 Measures and bounds (Pre-TT) [32] MARKSCHEME

1.

$$\approx \frac{400 \times 3}{0.6}$$

M1

*At least two suitable [accept 390]
Do not accept 1 or 0.5 for 0.6*

$$\frac{1200}{0.6}$$

A1

Needs $\frac{1200}{0.6}$ or equivalent [or $\frac{1170}{0.6}$]

2000

A1

[Note: no working 0 marks]

[or 1950] [Check not from $\frac{400 \times 5}{1}$]

[3]

2.

4 m ²	B1	substitution into formula eg $1.5 = \frac{12}{A}$
	A1	4 (oe) stated
	C1	(indep) units stated

3.

53.475 53.485	2 1 AO1.3a 1 AO2.1a	B1 for one correct or both correct but reversed
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4.

4 - 4.5	B1	Rounds appropriately using two of 5, 2 or 7
	M1	$\sqrt{19}$
	A1	4 - 4.5

5.

500g	P1	$\frac{1}{R} \times 160 (=20)$ P1 '20' $\times 25$ A1 500 (or 0.5) B1 Correct units g (or kg)
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6.

Min wt of 1 book is 3.15 kg

B1

\therefore Min of 6 books is 18.9 kg

B1

[2]

7.

explanation	M1	works with volume eg 240000	begins working back eg $70 \div 2.50$ uses conversion 1 litre = 1000 cm ³ uses 8000 eg "28" \times 8000 (=224000) works with vol. eg 224000 for explanation with 240000 and 224000
	M1	uses conversion 1 litre = 1000 cm ³	
	M1	uses 8000 eg vol \div 8000 (=30)	
	M1	uses "30" eg "30" \times 2.50	
	C1	for explanation and 75 stated	

8.

1.5	B1	for any correct bound clearly identified, eg. $99.65 \rightarrow x \rightarrow 99.75$ or $66.5 \rightarrow y \rightarrow 67.5$
	M1	for method to find UB, eg. "99.75" \div "66.5"
	A1	for 1.5

9.

12.2	P1	begins process eg $150 \div 19.3$ (= 7.77..) or $150 \div 8.9$ (= 16.85..)
	P1	complete process to find total volume
	P1	complete process to find the density of the alloy
	A1	for answer in range 12.1 to 12.2

10.

6	3 1 AO1.3b 1 AO3.1d 1 AO3.3	B1 for 0.75 m
		M1 for $\frac{4}{\text{their '0.75'}}$ Or $5 \times 0.75 = 3.75$