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

1.

150 000	M1 A1	$60 \div 100^2$ **or** $900 \div 60$ **or** $900 \div$ "60"

2.

$7.15 \leq x < 7.25$	B1 B1	for 7.15 and 7.25 cao

3.

Sight of two from 40, 6 and 2 M1

Allow 36, 37, 38

$\frac{240}{4}$ M1dep

oe

or $\frac{6 \text{ x (their } 36, 37 \text{ or } 38)}{4}$

60 A1

54, 55.5, 57

[3]

4.

55 000 cm^2	B1

5.

Max weight 1 packet is 355 g

Min weight 1 packet is 345 g M1

Max/min of each times 6
ie 6 × any number (≠350)
between 340 and 360

Max weight 6 packets is 2130 g A1

Either correct

Min weight 6 packets is 2070 g A1

Other correct

SCI for max and min of 2100 which is 350 × 6 ie 2095, 2105

[3]

6.

(a)	375.112(1656)	B1	Condone if correctly rounded to 7 significant figures or better eg 375.1122
(b)	20^2 or 400 or $\sqrt[3]{1000}$ or 10 or 5	M1	
	400 – 10 ÷ 5 = 398 or 400 – 2 = 398	A1	

7.

Max width is 52.5 m
Max length is 115 m — B1

Accept 52.499... and 114.99...

Max area is 52.5×115 m^2 — M1

$= 6037.5$ m^2 — A1

B1 (units)

[SC 6040 — M1 B1
+ unit mark unless 6037.5 seen]

6040m^2 — B1 M1 B1

Accept 6037m^2

[4]

8.

$\frac{300 \times 8}{0.4}$ — B1

At least 2 correct

$= \frac{2400}{0.4}$ — B1

Needs both terms correct

$= 6000$ — B1

Accept $\frac{300 \times 10}{0.5} = 6000$ *B3*

[3]

9.

$\frac{885}{40.5}$ or 21.8	**M2**	**M1** for $\frac{885 \text{to} 895}{39.5 \text{to} 40.5}$
Orientation that accommodates 21 (or 22) boxes identified e.g. $\frac{110}{50}$ and $\frac{90}{30}$ and $\frac{180}{40}$	**B1**	
2, 3 and 4 or 24	**B1**	
21	**A1** 2 AO2.3a 2 AO3.1d 1 AO3.3	if **0** scored then allow **B1** for any valid orientation correctly interpreted e.g. $\frac{110}{40}$ and $\frac{90}{30}$ and $\frac{180}{50}$ **and** 2, 3 and 3 or 18

10.

(a)		252	**2** 1 AO1.3a 1 AO2.3a	**M1** for 28×9
(b)		14.9[42]	**4** 2 AO1.3b 2 AO3.1d	**M3** for (*their* **(a)** $+41 \times 19) \div (28 + 41)$ or **M2** for (*their* **(a)** $+ 41 \times 19$) or 1031 or **M1** for 41×19 or 779 or 69