

Topic 5 Angles, area and volume (Pre-TT) [41] MARKSCHEME

- 1.
- (a) 112 B1
 Corresponding angle B1
Accept F angle
Note: 68 or 130 and corresponding scores B0B0
- (b) 180 – 130 M1
oe eg 360 – 68 – 112 – 130
- 50 A1
- [4]**

- 2.
- 3 × 4 and 3 × 9
 or 3 × 6 and 3 × 7
 or 9 × 7 and 6 × 4 M1
for identifying the areas of two correct rectangles
- 12 + 27
 or 18 + 21 M1 dep
 or 63 – 24
- 39 A1
must show evidence of correct working
- [3]**

- 3.
- 360/5 M1
540/5
- 72 or 108 seen A1
- (180 – their 108)/2 M1
108 – 72 or 180 – 72 – 72
- 36 A1
- [4]**

4.

$16 \div 4$ $\frac{1 \times 4}{2} = 2$ or $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ $\frac{2 \times 4}{2} = 4$ or $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ $\frac{1 \times 4}{2} + \frac{2 \times 4}{2} = 6$ or $\frac{1}{2} \times \frac{1}{4} + \frac{1}{2} \times \frac{1}{2} = \frac{3}{8}$ $16 - 6 = 10$ or $1 - \frac{3}{8} = \frac{5}{8}$	$\frac{5}{8}$	P1 Using side lengths of 4 P1 Method to find fraction or area for one unshaded triangle P1 Method to complete fraction or area for total unshaded region P1 Method to find total fraction or area for shaded region A1 for $\frac{5}{8}$ oe or 0.625
---	---------------	--

5.
 $180 - 125$ M1
or 55
 $180 - (55 + 34)$ M1
or $360 - (125 + 55 + 55 + 34)$ oe
M2 $125 - 34$ oe
91 A1 [3]

6.
1 by 5 by 2 identified B1
or height = 2 or base = 1×5
 $2(1 \times 5 + 1 \times 2 + 2 \times 5)$ M1
oe area of 6 faces attempted
34 A1 [3]

7.

3, 12 and 12	6 1 AO1.3b 1 AO2.1a 2 AO3.1d 2 AO3.2	B1 for 3 AND B5 for 12 and 12 OR M2 for $x = 150$ Or M1 for $x + x + 60 = 360$ AND M2 for $360 \div (180 - \text{their } x)$ oe dependent on previous M1 Or M1 for $360 \div n$ ($0 < n < 180$) or for $180 - \text{their } x$
--------------	---	---

8.
(a) $\pi(\frac{1}{2} \cdot 7.5)^2 \cdot 11.6$ M2
M1 for $\pi(\frac{1}{2} \cdot 7.5)^2$ or 44.1(...) seen
or 44.1786(π) or 44.1562(3.14)
512.2 to 512.5... A1
or 512
 $\pi \times (3. \dots)^2 \times 11.6$ scores M1
 $\pi(7.5)^2 \cdot 11.6 \rightarrow 2048$ to 2051... SC1
(b) (circumference =) $\pi 7.5$ M1
23.56... or 23.55 if used 3.14
(their 23.56) + 1 M1 dep
(their 24.56) $\times 11.6$ M1 dep
284.78 to 285 A1
or (their 23.56) $\times 11.6$ M1 dep
add 11.6 M1 dep
284.78 to 285 A1

9.

$\frac{2}{3}$	3 1 AO1.3a 1 AO3.1b 1 AO3.2	B1 for radius of large circle = 3 × radius of small circle M1 for $\frac{9\pi r^2 - 3(\pi r^2)}{9\pi r^2}$ oe
---------------	---	---

10.

152	M1 Start to method $ABD = 38^\circ$ and BAD or DBC or $DCB = 38^\circ$ M1 $A\hat{D}B$ or $B\hat{D}C = 180 - 2 \times 38 (=104)$ A1 for 152 with working
-----	---