

## Revision A F3 (Topics 3-6) [43] MARKSCHEME

1.

$$(26000 - 5000) \times \frac{22}{100}$$

M1

4620

A1

[2]

2.

(a)  $4z = 11 + 5$  or 16

M1

4

A1

*Allow embedded answer  
If contradiction M1 A0*

(b)  $7t - t$  or  $6 + 3$

M1

$6t = 9$

M1

*or  $7t - t = 6 + 3$*

1.5 or  $1\frac{1}{2}$  or  $\frac{3}{2}$

A1

*Allow embedded answer  
If contradiction M1 A0*

(c)  $3x + 6$

B1

$5x - 3x$  or  $6+1$

M1

3.5 or  $3\frac{1}{2}$  or  $\frac{7}{2}$

A1

*Allow embedded answer  
If contradiction M1 A0*

[8]

3.

(a)  $360 \div 9$  or 40

M1

*or  $(2 \times 9 - 4)$ , right angles*

M1

140

A1

*140*

A1 cao

(b)  $180 - 155$  or 25 seen

M1

$360 \div$  their  $(180 - 155)$

M1

not a whole number o.e.

A1

*e.g. 25 does not go into 360*

[5]

4.

135	<p>B1 for identifying the angle of <math>70^\circ</math> (on the diagram), showing understanding of notation</p> <p>P1 for process to find an angle in triangle <math>ABC</math>, eg. for process to find angle <math>BAC</math>, eg. <math>(180 - 50) \div 2</math> (<math>= 65^\circ</math>)</p> <p>A1 for 135</p>
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- 5.
- |     |  |    |     |
|-----|--|----|-----|
| (a) | $(1.7 \times 1.2 \Rightarrow) 2.04$                                      | B1 |     |
| (b) | $2.04 \times 1.2$ or 2.448 or 2.45<br><i>Can be implied from 2.94</i>    | M1 |     |
|     | $2.448 \times 1.2$ or 2.9376 or 2.94<br>$(2.9376 \times 1.2$ or 3.52512) | M1 |     |
|     | 6 (windmills)<br><i>5,6,7,8,9,10 (windmills) scores SC2</i>              | A1 | [4] |

- 6.
- |  |   |        |     |
|--|---|--------|-----|
|  | $(x - 2)y = m + x$<br><i>Condone missing brackets for this mark only unless recovered</i> | M1     |     |
|  | $xy - 2y = m + x$ oe  | A1     |     |
|  | $xy - x = m + 2y$<br>or $x(y - 1) = m + 2y$<br><i>Allow one sign error</i>                | M1 dep |     |
|  | $x = \frac{m + 2y}{y - 1}$ oe   | A1     | [4] |

- 7.
- |     |  |    |  |
|-----|--|----|--|
| (a) | Attempt at one relevant rectangle<br><i>Addition</i><br>$5.6 \times 2.5 (= 14)$<br><i>or</i> $4.7 \times 1.8 (= 8.46)$<br><i>or</i> $7.2 \times 1.8 (= 12.96)$<br><i>or</i> $3.8 \times 2.5 (= 9.5)$<br><i>Subtraction</i><br>$5.6 \times 7.2 (= 40.32)$<br><i>or</i> $4.7 \times 3.8 (= 17.86)$ | M1 |  |
|     | Attempt at second rectangle and<br>addition or subtraction<br><i>Must pair with first</i>  | M1 |  |
|     | 22.46 or 22.5<br><i>If 3 rectangles used, second M1<br/>awarded if all 3 attempted and added</i>   | A1 |  |

- (b)  $5x + 3 + 2x + 4 + x + 4 + 2x + 3$  M1  
*Allow 2 terms missing or incorrect*
- $10x + 14$  A1
- their  $(10x + 14) = 29$  M1 dep  
*oe*
- 1.5 A1
- Alternative Method**
- $5x + 2x + x + 2x$  M1  
*oe Allow 1 term missing*
- $29 - 3 - 3 - 4 - 4 (= 15)$  B1  
*oe Allow 1 term missing*
- their  $(10x) = \text{their } (15)$  M1
- 1.5 A1
- Answer 2.3 gets M1BOM1A0*

[7]

8.

- (a)  $35600 \div 5$  M1  
 $7120$  A1  
*28480 SCI*
- (b)  $36200 - 35600$  M1  
 $36200/35600 \times 100$
- Their  $600 \div 35600 \times 100$  DM1  
*Their  $36200/35600 \times 100 - 100$*
- 1.69 or 1.68(539...) A1

[5]

9.

(a)	$\sqrt{3}$	1 1 AO1.1	
(b)	$24\sqrt{3}$	4 4 AO1.3b	M1* for $\frac{\text{height}}{4\sqrt{3}} = \text{their } \tan 60^\circ$ A1 for 12 or $4\sqrt{3} \times \sqrt{3}$ *M1 Dep for $\frac{1}{2} \times 4\sqrt{3} \times \text{their '12'}$

10.

No with supporting evidence	P1	for the start of a correct process, eg. two of $x$ , $2x$ and $2x+7$ oe or a fully correct trial, eg. $5 + 10 + 17 = 32$
	P1	for setting up an equation in $x$ . eg. $x + 2x + 2x + 7 = 57$ or a correct trial totalling 57, eg. $10 + 20 + 27 = 57$
	C1	(dep on P2) for at least one correct result and for a correct deduction from their answers found, eg. Chris has 20 so it is impossible for all to have 20 since 60 marbles would be needed.