

## Revision B F4 (End of Year Exam) [34] MARKSCHEME

1.

$$\frac{1}{2} \times 4 \times 9 \times \sin x = 15 \quad \text{[M1]}$$

Attempt to rearrange:  $\sin x = \frac{15}{18}$  [M1]

56.4° [A1]

2.

48 ≈ 120% M1

100% ≈  $\frac{48}{120} \times 100$  M1 dep

= 40 A1

[3]

3.

147	<b>4</b> <small>1 AO1.3b 3 AO3.1d</small>	<b>M3</b> for $12 \times 25 - (5 \times 11 + 7 \times 14)$ or better Or <b>M2</b> for two of $12 \times 25$ , $5 \times 11$ and $7 \times 14$ Or <b>M1</b> for one of $12 \times 25$ , $5 \times 11$ and $7 \times 14$	Accept any correct method e.g. <b>M3</b> for $5 \times 14 + 7 \times 11$ or better Or <b>M2</b> for $5 \times 14$ and $7 \times 11$ Or <b>M1</b> for $5 \times 14$ or $7 \times 11$
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4.

<b>(a)</b>	1536	<b>B1</b>
<b>(b)</b>	$2^{n+2} + 2^{n+1}$	<b>B1</b>

5.

(a)  $4m + 12 + 6m - 15$  M1  
*Allow one error*

$10m - 3$  A1  
*Allow 10m + -3*

(b)  $6x + 9y = 27$        $4x + 6y = 18$  M1  
and      or      and  
 $6x + 4y = 2$        $9x + 6y = 3$   
*Allow one error in either first*

$5y = 25$       or       $5x = -15$  M1dep

*or second method mark*

$y = 5$       or       $x = -3$  A1

$x = -3$       and      and  $y = 5$  A1  
*SC1 correct answers only or correct answers by T&I*

(c) (i)  $(x + 8)(x - 2)$  B2  
*B1 for  $(x \pm 8)(x \pm 2)$*

(ii)  $x = -8$  and  $x = 2$  B1  
*ft. from their factors, must have both solutions*

[9]

6.

$DN = MB$ (given) $\angle NDC = \angle MBC$ (base angles of isosceles triangle) $DC = BC$ (sides of a rhombus are equal) $\therefore \triangle DNC = \triangle BMC$ (SAS)	Proof	C1 One correct relevant statement C1 All correct relevant statements C1 Correct conclusion with reasons
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7.

$6 \text{ cm}^2 = 90$  oe       $150 = 90$       M1  
*15 is area of 1 box*

Obtaining area  $16.4 \text{ cm}^2$       M1  
*In any form, rows, boxes must be correct 410, 82*

$"16.4" \times \frac{90}{6}$       M1  
*Their area  $\times$  their scaling*

$= 246$       A1  
*Sight of 135, 78, 33 (all 3)      SC3*  
*One correct M1M0M1A0*

[4]

8.

(a)	Draws correct Venn diagram	$\frac{44}{50}$	M1 Begin to interpret given information e.g. 3 overlapping labelled ovals with central region correct M1 Extend interpretation of given information e.g. 3 overlapping labelled ovals with at least 5 regions correct M1 Method to communicate given information e.g. 3 overlapping labelled ovals with all regions correct including outside A1 oe
(b)		$\frac{21}{44}$	P1 For correct process to identify correct regions in Venn diagram and divide by '44' A1