

# Sets & Venn Diagrams

## Mark Scheme 4

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Sets & Venn Diagrams
Booklet	Mark Scheme 4

**Time Allowed:** 52 minutes

**Score:** /43

**Percentage:** /100

**Grade Boundaries:**

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

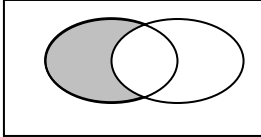


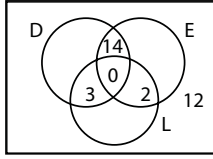
1	(a) (i)	180	1	1	1		
	(ii)	20					
	(b)	220					
	(c) (i)	$\frac{170}{240}$ oe isw				1	Allow 0.708, 0.7083... or % equivalents
	(ii)	$\frac{150}{240}$ oe isw				1	Allow 0.625 or % e
	(d)						<b>Penalise once for first correct none 4 dp dec answer to at least 3sf or correct fraction answer in parts (d) and (e)</b>
	(i)	0.5617				2	Accept 56.1715% , do not accept 0.562 ww <b>M1</b> for $\frac{180}{240} \times \frac{179}{239}$ [ 0.56171 to 0.56172], $\frac{537}{956}$ oe
	(ii)	0.3766				3	Accept 37.6569% <b>M2</b> for $2 \times \frac{180}{240} \times \frac{60}{239}$ oe [0.37656 to 0.37657] $\frac{90}{239}$ oe Or <b>M1</b> for one correct product seen, implied by 0.18828... or 0.1883
	(e)	0.6937				3	Accept 69.3669%, do not accept 0.694 ww <b>M2</b> for $\frac{150}{180} \times \frac{149}{179}$ [0.69366 to 0.69367] $\frac{745}{1074}$ oe or <b>M1</b> for $\frac{150}{180}$ oe soi

2	(ii)	7	1	1	1ft
	(ii)	4			
	(b)	$\frac{7}{13}$ oe			

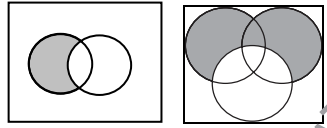
3	correct regions shaded	1, 1	
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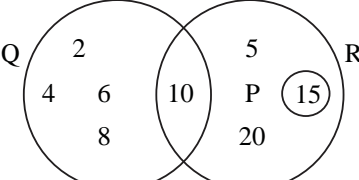
4 (a)		1	
(b)	14	1	

5	<p>(a)</p>  <p>(b) 11</p> <p>(c) 23</p>	4	<p><b>B1</b> 0 and 14 in correct place  <b>B1</b> 2 in correct place  <b>B1</b> 3 in correct place  <b>B1</b> 12 in correct place</p> <p>1ft <b>B1ft</b> 8 + their 3</p> <p>1ft <b>B1ft</b> 21 + their 2</p>
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6	10	2	<p><b>M1</b> 33 - 25  or 38 - 30</p> <p><b>M1</b> 30 - 15 - 5 oe  with no further working</p>
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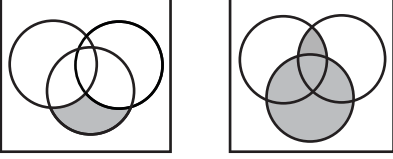
7		1, 1	
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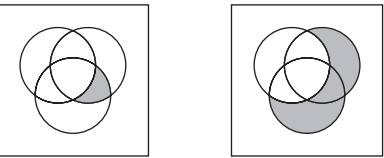
8	13	2	<p><b>M1</b> 21 + 15 - 23  or <b>M1</b> 15 - x + x + 21 - x + 1 = 24 oe</p>
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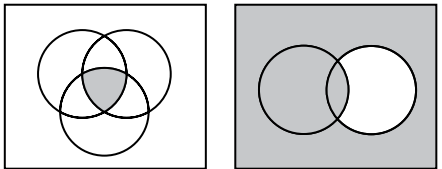
9		3	<p><b>M1</b> 15 only in small circle  <b>M1</b> 10 only in the intersection  <b>A1</b> all correct including labels</p>
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10	$(A \cup B \cup C)'$ $(A \cup C)' \cap B$	1 1	or $A' \cap B' \cap C'$ or $A' \cap (B \cup C)'$ or $A' \cap C' \cap B$
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11		2	B1 for one correct Venn diagram
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12		2	B1, B1
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13		1, 1	
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