

# Topic Test 1 Mark Scheme

## Basic Probability - Higher

Q	Answer	Mark	Comments							
1	$6 \times 6$ or 36	M1	May be implied from a diagram eg sample space or as the denominator of a fractional answer							
	$4 + 3 + 2 + 2 + 1 + 1$ or 2, 3, 5, 7, 3, 5, 7, 5, 7, 5, 7, 7, 7 or 13	M1	May be shown by exactly 13 single-digit primes in a list, grid or table or as the numerator of a fractional answer							
	$\frac{13}{36}$	A1	oe fraction, decimal, percentage SC2 $\frac{15}{36}$ oe							
2(a)	21 men and 63 women	B1								
	15 men pass and 6 fail	B1ft	ft their 21 divided in ratio 5 : 2							
	42 women pass and 21 women fail	B1ft	ft their 63 divided in ratio 2 : 1 SC2 Any three correct values SC1 Any two correct values							
	Fully correct: <table style="margin-left: 40px; border: none;"> <tr> <td style="padding-right: 20px;">21</td> <td>15</td> </tr> <tr> <td style="padding-right: 20px;">63</td> <td>6</td> </tr> <tr> <td style="padding-right: 20px;">(84)</td> <td>42</td> </tr> <tr> <td></td> <td>21</td> </tr> </table>	21	15	63	6	(84)	42		21	
21	15									
63	6									
(84)	42									
	21									
2(b)	$\frac{\text{their } 42}{84}$	M1								
	$\frac{1}{2}$	A1ft	ft $\frac{\text{their } 42}{84}$ cancelled down							

Q	Answer	Mark	Comments
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3	60 – 27 or 33 (tench) or (60 + 10) ÷ 2 or 35 (carp or tench) or 60 ÷ 2 or 30 (carp or tench)	M1	
	their 35 – 27 or 8 (carp added) or their 35 – their 33 or their 30 – 27 + 10 ÷ 2 or their 33 – their 30 + 10 ÷ 2	M1dep	
	2	A1	SC2 8

4	<b>Alternative method 1</b>		
	1 – 0.25 – 0.35 – 0.3 or 0.1	M1	oe May be seen in table
	40 ÷ 0.25 or 160 or 0.25 ÷ 0.1 or 2.5	M1	oe
	their 160 × their 0.1 or 40 ÷ their 2.5	M1dep	oe dep on previous M
	16	A1	
	<b>Alternative method 2</b>		
	40 ÷ 0.25 or 160	M1	oe
	0.35 × their 160 or 56 and 0.3 × their 160 or 48	M1dep	oe
	their 160 – 40 – their 56 – their 48	M1dep	
	16	A1	

Q	Answer	Mark	Comments															
5(a)	66 total boys and 54 total girls	B1																
	48 total maths and 72 total science	B1																
	18 girls maths and 36 girls science	B1ft	ft their 54 divided in ratio 1 : 2															
	30 boys maths and 36 boys science	B1ft	ft their 48 – their 18 and their 72 – their 36															
	<table border="1"> <thead> <tr> <th></th> <th>Boys</th> <th>Girls</th> <th>Total</th> </tr> </thead> <tbody> <tr> <th>Maths</th> <td>30</td> <td>18</td> <td>48</td> </tr> <tr> <th>Science</th> <td>36</td> <td>36</td> <td>72</td> </tr> <tr> <th>Total</th> <td>66</td> <td>54</td> <td>120</td> </tr> </tbody> </table>		Boys	Girls	Total	Maths	30	18	48	Science	36	36	72	Total	66	54	120	
	Boys	Girls	Total															
Maths	30	18	48															
Science	36	36	72															
Total	66	54	120															
5(b)	$\frac{30}{120}$	B1ft	oe fraction, decimal or percentage B1ft their 30 from (a)															