

# 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: 100px; 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
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															
<b>5(a)</b>	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															
<b>5(b)</b>	$\frac{30}{120}$	B1ft	oe fraction, decimal or percentage B1ft their 30 from (a)															