

Relative Frequency Mark Scheme																
1(a)	$P(\text{Red and Blue}) = 0.53 + 0.21 = 0.74$	[1] Combining probabilities														
	$P(\text{Yellow}) = 1 - 0.74 = 0.26$	[1] Subtraction from 1														
1(b)	0.53×1000	[1] Calculation														
	$= 530$	[1] Answer														
2(a)	$P(B, T, C) = 21 + 8 + 2 = 31$	[1] Total calculated														
	$\frac{31}{75} = 0.413$	[1] Probability given														
2(b)	$P(\text{not walking}) = 1 - \frac{32}{75}$	[1] Total calculated														
	$= 0.573$	[1] Probability given														
3(a)	$P(\text{Not Yellow}) = 0.15 + 0.2 + 0.3 + 0.16 = 0.81$	[1] All probabilities totalled														
	$P(\text{Yellow}) = 1 - 0.81 = 0.19$	[1] Answer														
3(b)	$P(\text{Purple or Red}) = 0.15 + 0.2 = 0.35$	[1] Correct probability														
	$0.35 \times 35 = 12.25 (= 12)$	[1] Answer														
4(a)	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="border: none;">Result</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <th style="border: none;">Relative frequency</th> <td>4</td> <td>8</td> <td>3</td> <td>3</td> <td>2</td> <td>5</td> </tr> </tbody> </table>	Result	1	2	3	4	5	6	Relative frequency	4	8	3	3	2	5	[1] 2 correct [1] All correct
Result	1	2	3	4	5	6										
Relative frequency	4	8	3	3	2	5										
4(b)	<p>Yes the dice appears to be biased as the number of times it lands on the number two is more than the expected result which is a sixth of 25 which is four</p> <p style="text-align: center;">or</p> <p>No as there is not enough data to determine if the dice is biased or not</p>	[2] Conclusion and reasoning - must have supporting argument														
4(c)	$500 \times \frac{1}{5} \approx 100 \text{ times}$	[1]														
5(a)	$P(\text{Purple}) = \frac{4}{27}$	[1] Calculation														
	$= 0.148$	[1] Answer														
5(b)	Out of a bag of 60 there should be approximately 9 purple sweets.	[1]														

Turn over ►

6(a)	$P(40) = \frac{1}{6} \text{ or } \frac{7}{36} \text{ or } \frac{15}{75}$ $P(4) = 0.167 \text{ or } 0.194 \text{ or } 0.2$	[1] 1 Answer correct
	$p(4) = \frac{1}{6} \text{ or } \frac{7}{36} \text{ or } \frac{15}{75}$ $p(4) = 0.167 \text{ or } 0.194 \text{ or } 0.2$	[1] Any combination of 2 out of the three
6(b)	Mark	[1]
	Largest number of trials	[1] Answer must reference number of trials, sample size., or size of data.
7(a)	After 5 trails Thomas found 5×0.4	[1] Calculation
	= 2 white marbles	[1] Answer
7(b)	0.43×200	[1] Calculation
	hence there will be 86 marbles in the bag.	[1] Answer between 80 – 100

END