	Relative Frequency Mark Scheme	
1(a)	$p(Red\ and\ Blue) = 0.53 + 0.21 = 0.74$	[1] Combining probabilities
	$p(Yellow) = 1 - 0.74 = 0.26$	[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
	$\dfrac{31}{75} = 0.413$	[1] Probability given
2(b)	$P(not\ walking) = 1 - \dfrac{32}{75}$	[1] Total calculated
	$= 0.573$	[1] Probability given
3(a)	$P(Not\ Yellow) = 0.15 + 0.2 + 0.3 + 0.16 = 0.81$	[1] All probabilities totalled
	$p(Yellow) = 1 - 0.81 = 0.19$	[1] Answer
3(b)	$p(Purple\ or\ Red) = 0.15 + 0.2 = 0.35$	[1] Correct probability
	$0.35 \times 35 = 12.25\ (= 12)$	[1] Answer
4(a)	Result: 1, 2, 3, 4, 5, 6 — Relative frequency: 4, 8, 3, 3, 2, 5	[1] 2 correct [1] All correct
4(b)	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 *or* No as there is not enough data to determine if the dice is biased or not	[2] Conclusion and reasoning - must have supporting argument
4(c)	$500 \times \dfrac{1}{5} \approx 100\ times$	[1]

Table for 4(a):

Result	**1**	**2**	**3**	**4**	**5**	**6**
Relative frequency	4	8	3	3	2	5

Turn over ▶

5(a)	$p(purple) = \dfrac{4}{27}$	[1] Calculation
	$= 0.148$	[1] Answer
5(b)	Out of a bag of 60 there should be approximately 9 purple sweets.	[1]
6(a)	$p(4) = \dfrac{1}{6}$ or $\dfrac{7}{36}$ or $\dfrac{15}{75}$ $p(4) = 0.167$ or 0.194 or 0.2	[1] 1 Answer correct
	$p(4) = \dfrac{1}{6}$ or $\dfrac{7}{36}$ or $\dfrac{15}{75}$ $p(4) = 0.167$ or 0.194 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 x 200	[1] Calculation
	hence there will be 86 marbles in the bag.	[1] Answer between 80-100

END