1	(a)		23, 177	C3	Completes all information correctly.
			10, 13, 85, 92	(C2	3 or 4 correct frequencies or all correct probabilities)
				(C1	2 correct frequencies)
	(b)		$\frac{13}{23}$	M1	ft oe for $\frac{a}{23}$, $a < 23$ or $\frac{13}{b}$, $b > 13$
				A1	ft oe from (a)

2		4 22 45 18 7 23 16	C1	for correctly placing at least one piece of data (22 or 16) **OR** for finding at least one unknown piece of data (4, 18, 7 or 23)	Unknown figures may be seen in working and need not be on the diagram
			C1	for correctly placing at least one piece of data (22 or 16) **and** for finding at least one unknown piece of data (4, 18, 7 or 23)	Award of this mark implies the first C1
			C1	for a complete correct tree. **SC C2** if all 6 figures are shown as the numerator of fractions in the correct places	

3	Probabilities should sum to 1	C1	for stating that the probabilities should total 1 eg 0.25 should be 0.35	
	0.35 and 0.65 reversed	C1	for recognising that the 0.35 and 0.65 in the first branches for the 2nd throw should be reversed eg, "for the second throw, the probability it lands on 4 should be 0.65"	Can be shown on the diagram

4	(a)	32, 48, 24, 8, 37, 11	C1	starts to interpret information, eg 48 or 8 in correct place	
			C1	for 80 – 48 (= 32) and "32" – 8 (= 24)	
			C1	completes frequency tree correctly SC: award C2 if all correct frequencies are shown as fractions of 80.	
	(b)	$\frac{37}{61}$	M1	ft for $\frac{a}{\text{"61"}}$ with $a <$ "61" or $\frac{\text{"37"}}{b}$ with $b >$ "37"	Incorrect notation with "37" and "61"can earn the method mark but not the accuracy mark.
			A1	ft from diagram in (a)	Accept any equivalent fraction, decimal form 0.60(65...) or 0.61 or percentage form 60(.65...)% or 60% or 61%

5	(a)	$\frac{7}{10}, \frac{4}{9}, \frac{5}{9}, \frac{4}{9}$	B2	for all probabilities correct (oe)	
			(B1	for 2 or 3 correct)	
	(b)	$\frac{15}{90}$	M1	for $\frac{3}{10} \times \frac{5}{9}$ oe	
			A1	$\frac{15}{90}$ oe	Accept any equivalent fraction, decimal form 0.16(6...) or 0.17 or percentage form 16(.6...)% or 17%

6	(a)	$\frac{1}{3}, \frac{2}{3}$ $\frac{1}{3}, \frac{2}{3}, \frac{1}{3}, \frac{2}{3}$	B2	six fully correct probabilities	Accept any equivalent fraction, decimal form 0.33(3...) and 0.66(6...) or 0.67 or percentage form 33(.3...)% and 66(.6...)% or 67%
			(B1	at least 2 correct probabilities)	
	(b)	$\frac{2}{9}$	M1	for $\frac{1}{3} \times \frac{2}{3}$ oe or ft probabilities from diagram	
			A1	for $\frac{2}{9}$ oe	Accept any equivalent fraction, decimal form 0.22(2...) or percentage form 22(.2...)%