14	(a)		$\frac{5}{9}$ and $\frac{4}{9}$ $\frac{7}{10}$ and $\frac{3}{10}$ $\frac{7}{10}$ and $\frac{3}{10}$	2	B2 (B1	for all 3 correct pairs of probabilities on the correct branches for 1 or 2 correct pairs of probabilities on the correct branches) Accept decimals or percentages rounded or truncated to at least 2sf. NB $\frac{5}{9} = 0.55(55\ldots)$ and $\frac{4}{9} = 0.44(44\ldots)$	
	(b)	$\frac{5}{9}$, $\frac{7}{10}$ **or** $1-\left(\frac{5}{9}\times\frac{3}{10}+\frac{4}{9}\times\frac{7}{10}+\frac{4}{9}\times\frac{3}{10}\right)$		2	M1ft	ft diagram, oe	Allow ft their tree diagram provided the relevant probabilities are less than 1 in each case For A1, allow decimals or percentages that round or truncate correctly to at least 2sf. ISW any attempt to convert to other form once correct probability seen
		Correct answer only scores full marks (unless from obviously incorrect working)	$\frac{7}{18}$		A1ft	ft diagram, oe fraction, decimal or percentage. NB $\frac{7}{18} = \frac{35}{90} = 0.38(88\ldots)$	

	(c)	$(RRR =) \frac{5}{9} \times \frac{7}{10} \times \left(1 - \frac{2}{11}\right) \left(= \frac{315}{990} = \frac{7}{22}\right)$ **or** $(RRG =) \frac{5}{9} \times \frac{7}{10} \times \frac{2}{11} \left(= \frac{70}{990} = \frac{7}{99}\right)$ **or** $(RGR =) \frac{5}{9} \times \frac{3}{10} \times \left(1 - \frac{2}{11}\right) \left(= \frac{135}{990} = \frac{3}{22}\right)$ **or** $(GRR =) \frac{4}{9} \times \frac{7}{10} \times \left(1 - \frac{2}{11}\right) \left(= \frac{252}{990} = \frac{14}{55}\right)$ **OR** $(GGG =) \frac{4}{9} \times \frac{3}{10} \times \frac{2}{11} \left(= \frac{24}{990} = \frac{4}{165}\right)$ **or** $(GGR =) \frac{4}{9} \times \frac{3}{10} \times \left(1 - \frac{2}{11}\right) \left(= \frac{108}{990} = \frac{6}{55}\right)$ **or** $(GRG =) \frac{4}{9} \times \frac{7}{10} \times \frac{2}{11} \left(= \frac{56}{990} = \frac{28}{495}\right)$ **or** $(RGG =) \frac{5}{9} \times \frac{3}{10} \times \frac{2}{11} \left(= \frac{30}{990} = \frac{1}{33}\right)$		3	M1ft	ft diagram for a correct calculation to find the probability of one relevant outcome, eg *RRR* or *RRG* or *RGR* or *GRR* **OR** eg *GGG* or *GGR* or *GRG* or *RGG* May see *RRR* or *RRG* found using their answer to part (b): $(RRR =) \left[\frac{7}{18}\right] \times \left(1 - \frac{2}{11}\right)$ $(RRG =) \left[\frac{7}{18}\right] \times \frac{2}{11}$ where $\left[\frac{7}{18}\right]$ is their answer to part (b) and must be less than 1	Allow ft their tree diagram provided the relevant probabilities are less than 1 in each case For A1, allow decimals or percentages that round or truncate correctly to at least 2sf. ISW any attempt to convert to other form once correct probability seen
		$"\frac{7}{22}" + "\frac{7}{99}" + "\frac{3}{22}" + "\frac{14}{55}"$ oe **OR** $1 - \left("\frac{4}{165}" + "\frac{6}{55}" + "\frac{28}{495}" + "\frac{1}{33}"\right)$			M1ft	ft diagram, for a method to find the probability required. Condone one error in one of the four relevant outcomes **or** omission of one outcome Note P(*RR*) = P(*RRR*) + P(*RRG*), so may see $\frac{5}{9} \times \frac{7}{10} \left(= \frac{7}{18}\right)$ in place of $"\frac{7}{22}" + "\frac{7}{99}"$ for this mark (similar with P(*GG*))	
		Correct answer only scores full marks (unless from obviously incorrect working)	$\frac{386}{495}$		A1ft	ft diagram, correct probability oe fraction, decimal or percentage NB $\frac{386}{495} = \frac{772}{990} = 0.77(979\ldots)$	
						Total 7 marks