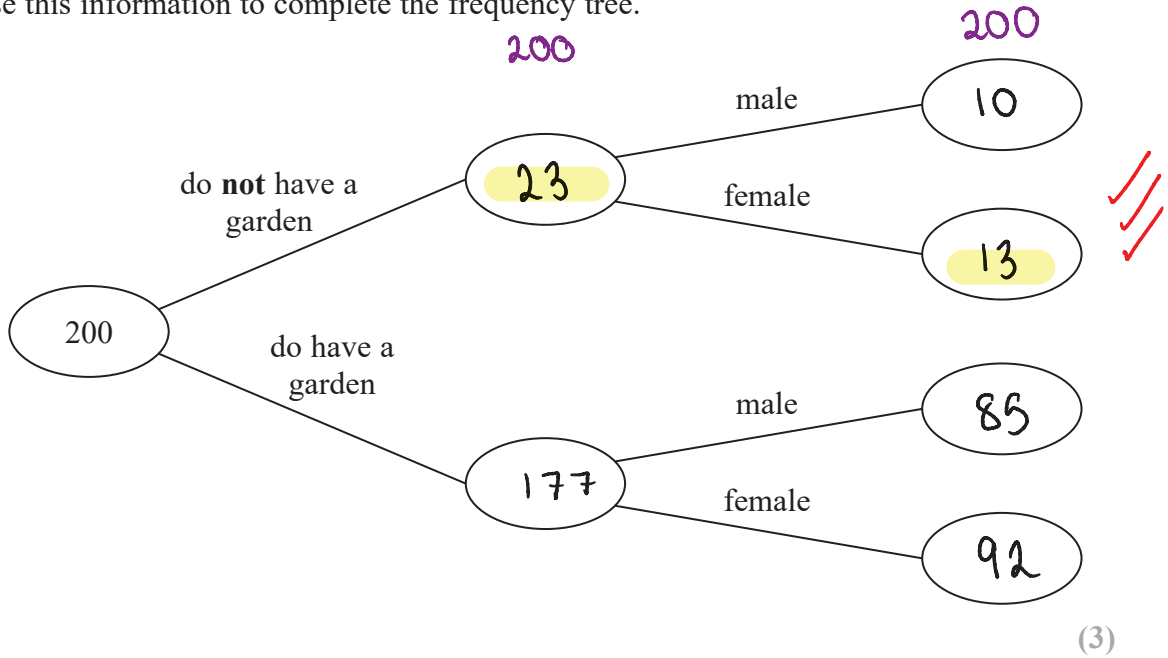


$$200 - 23 = 177$$

$$177 - 85 = 92$$

1. 200 people live in a village.
 23 people do **not** have a garden.
 10 males do **not** have a garden.
 95 people are male.

(a) Use this information to complete the frequency tree.



One of the people who does **not** have a garden is chosen at random.

(b) Write down the probability that this person is female.

N° who do not have garden is 23
 N° who are female without garden is 13

$$\frac{13}{23}$$

(2)

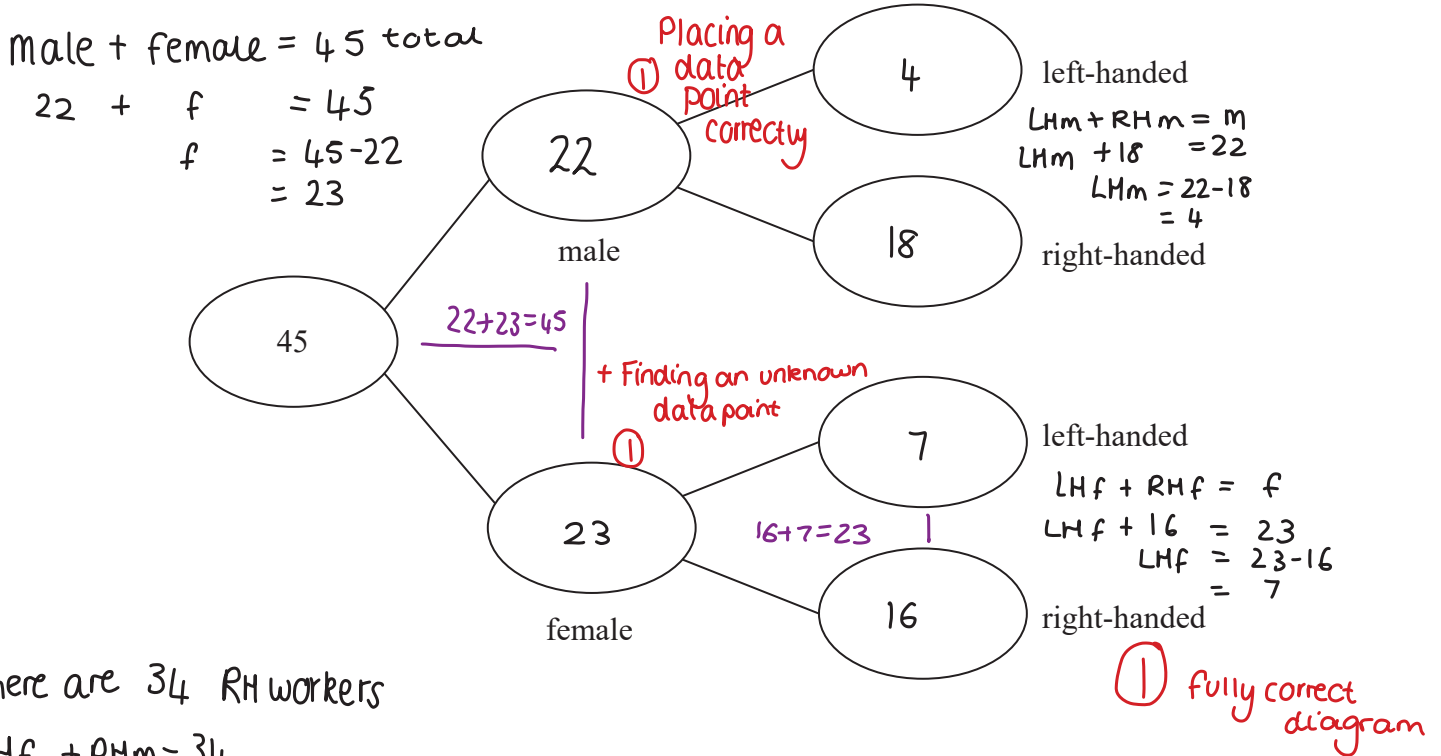
(Total for Question is 5 marks)

2. Each worker in a factory is either left-handed or right-handed.

22 of the 45 workers are male.

16 of the 34 right-handed workers are female. 16 right-handed females

Complete the frequency tree for this information.



There are 34 RH workers

$$RHf + RHm = 34$$

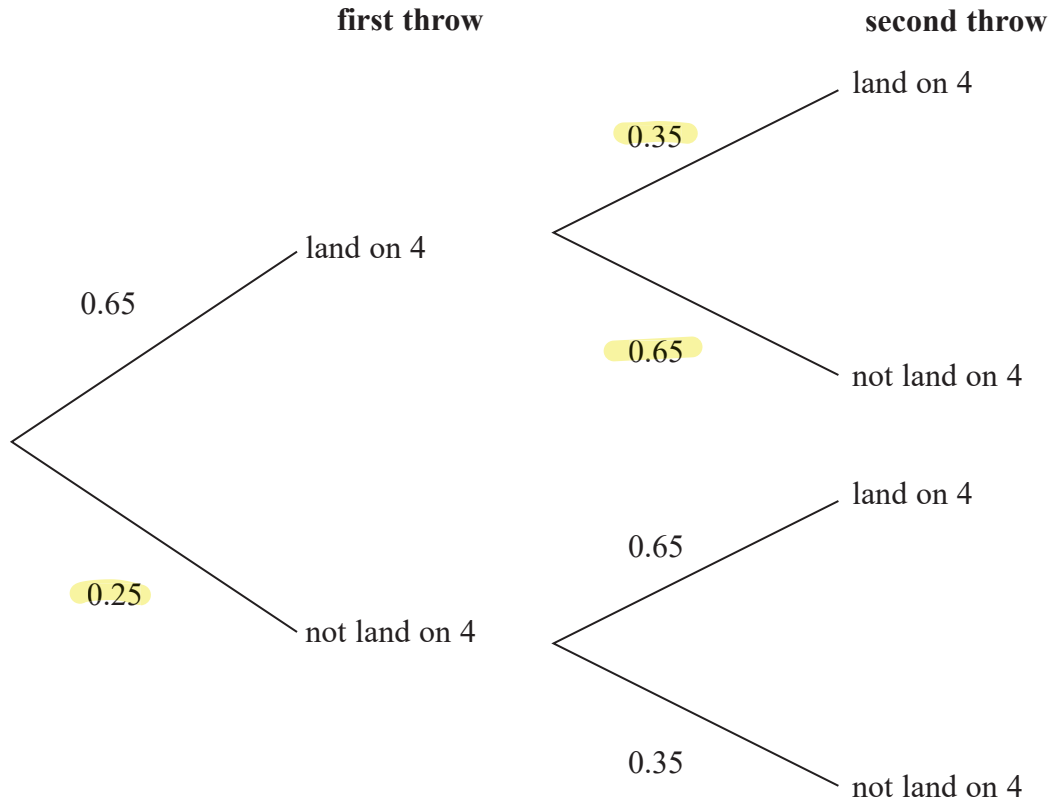
$$16 + RHm = 34$$

$$RHm = 34 - 16 = 18$$

(Total for Question is 3 marks)

3. When a biased 6-sided dice is thrown **once**, the probability that it will land on 4 is **0.65**. The biased dice is thrown twice.

Amir draws this probability tree diagram.
The diagram is **not** correct.



Write down **two** things that are wrong with the probability tree diagram.

1. Probabilities should sum to 1
0.25 should be 0.35 (1)
2. For the second throw, the probability it lands on a 4 should still be 0.65 (the top 0.35 and 0.65 should be swapped) (1)

(Total for Question is 2 marks)

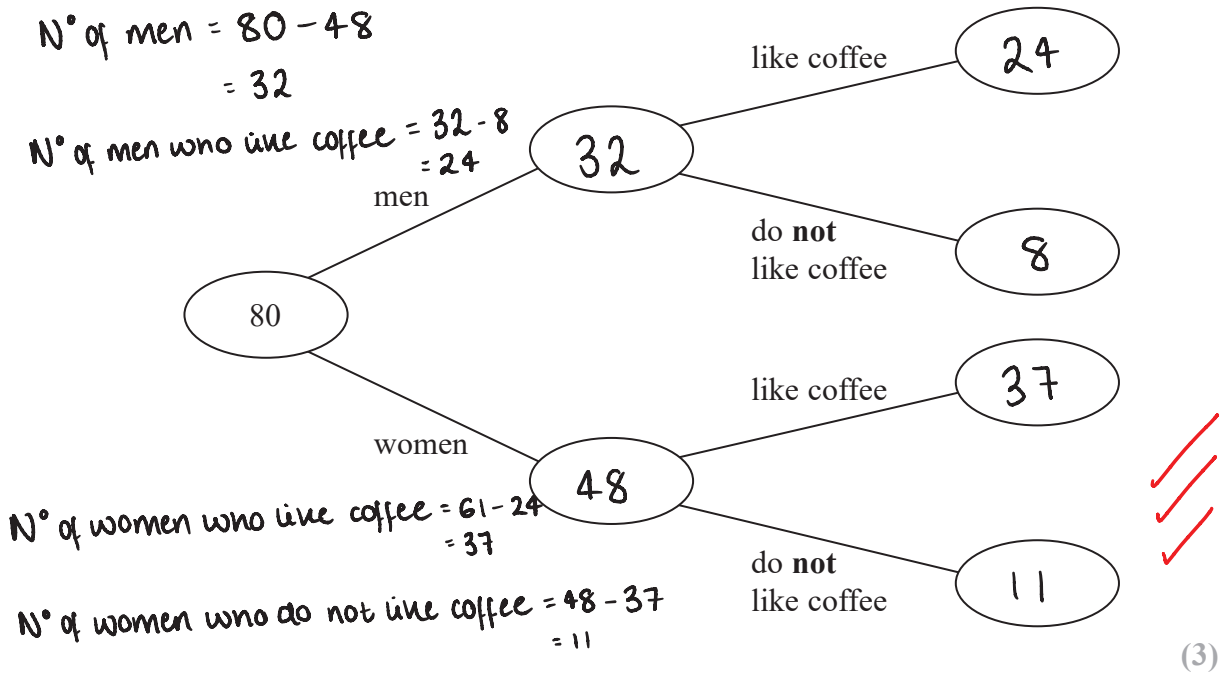
4. 80 people are asked if they like coffee.

48 of these people are women.

61 of the 80 people like coffee.

8 of the men do **not** like coffee.

(a) Use this information to complete the frequency tree.



One of the people who like coffee is chosen at random.

(b) Find the probability that this person is a woman.

$$p = \frac{\text{n}^\circ \text{ of women who like coffee}}{\text{n}^\circ \text{ of people who like coffee}} = \frac{37}{61}$$

$$\frac{37}{61}$$

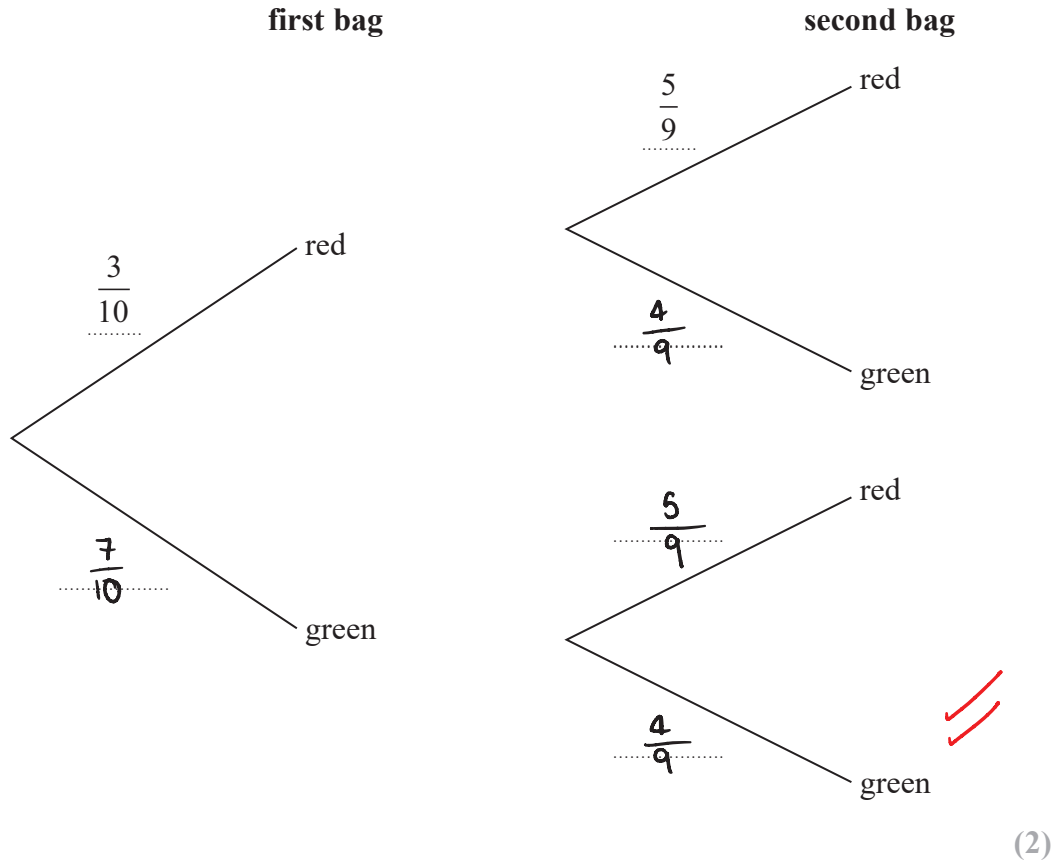
(2)

5. Amina has two bags.

In the first bag there are 3 red balls and 7 green balls. = 10 balls
 In the second bag there are 5 red balls and 4 green balls. = 9 balls

Amina takes at random a ball from the first bag.
 She then takes at random a ball from the second bag.

(a) Complete the probability tree diagram.



(b) Work out the probability that Amina takes two red balls.

$$\frac{3}{10} \times \frac{5}{9} \checkmark$$

$$= \frac{15}{90}$$

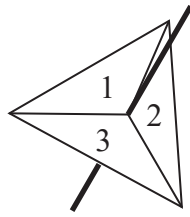
$$\frac{15}{90} \checkmark$$

(2)

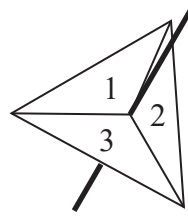
(Total for Question is 4 marks)

6. Amanda has two **fair** 3-sided spinners.

equally likely to land on 1, 2, or 3.



Spinner A

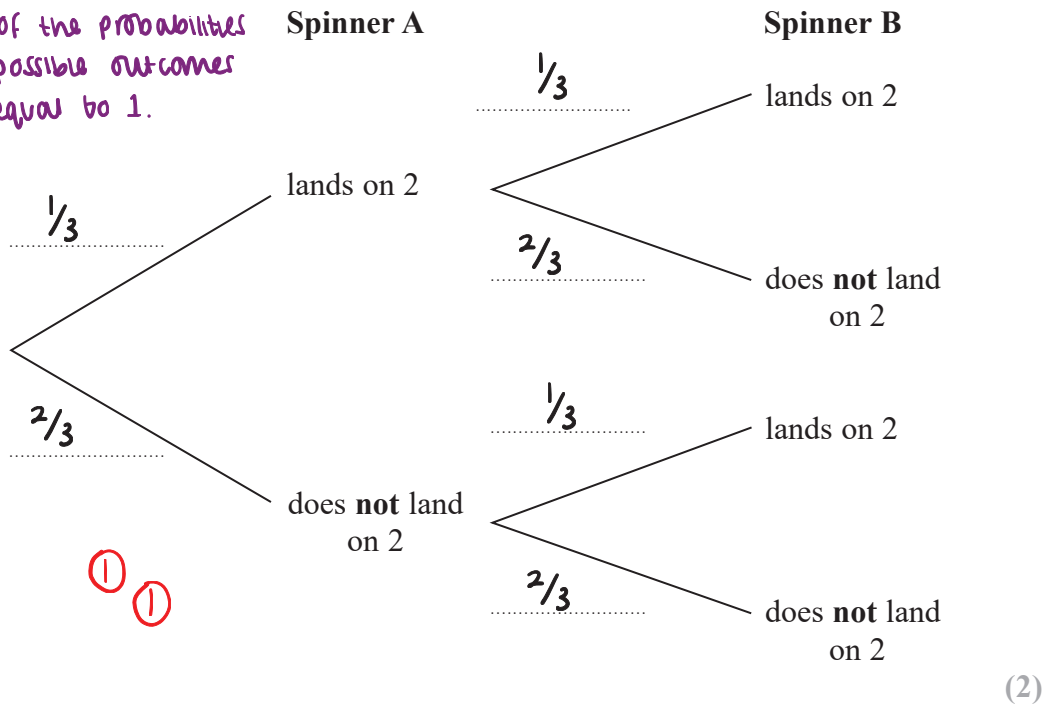


Spinner B

Amanda spins each spinner once.

(a) Complete the probability tree diagram.

The sum of the probabilities of all possible outcomes is equal to 1.



(b) Work out the probability that Spinner A lands on 2 and Spinner B does **not** land on 2

and = multiply.

$$P(\text{A lands on 2}) = \frac{1}{3}$$

$$P(\text{B does not land on 2}) = \frac{2}{3}$$

$$\therefore P(\text{A lands on 2 and B does not land on 2})$$

$$= \frac{1}{3} \times \frac{2}{3} = \frac{2}{9}$$

①

$\frac{2}{9}$

②

(Total for Question is 4 marks)