

4.2 Probability Diagrams – Tree & Venn Diagrams

Question Paper

Course	CIE IGCSE Maths
Section	4. Probability & Statistics
Topic	4.2 Probability Diagrams – Tree & Venn Diagrams
Difficulty	Medium

Time allowed: 30
Score: /18
Percentage: /100

Question 1a

A bag contains 15 red beads and 10 yellow beads.

Ariana picks a bead at random, records its colour and replaces it in the bag.

She then picks another bead at random.

Find the probability that she picks two red beads.

[2]

[2 marks]**Question 1b**

Find the probability that she does not pick two red beads.

[1]

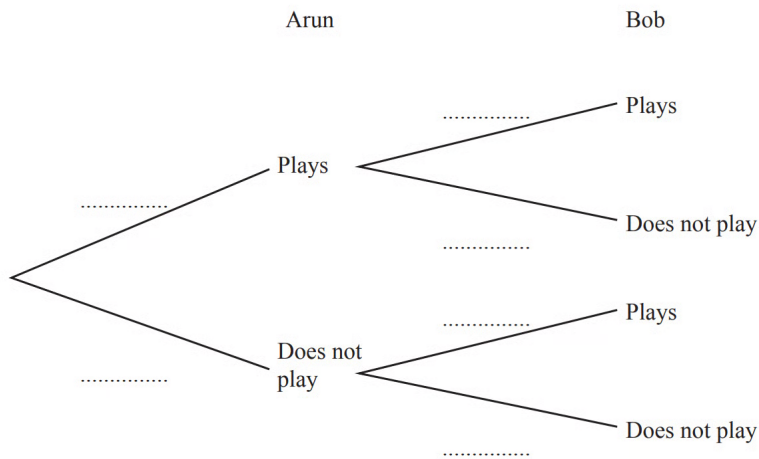
[1 mark]

Question 2a

On any Saturday, the probability that Arun plays football is $\frac{3}{4}$.

On any Saturday, the probability that Bob plays football is $\frac{2}{5}$.

Complete the tree diagram.



[2]

[2 marks]

Question 2b

Calculate the probability that, one Saturday, Arun and Bob both play football.

[2]

[2 marks]

Question 2c

Calculate the probability that, one Saturday, either Arun plays football or Bob plays football, but not both.

[3]

[3 marks]

Question 3a

\mathcal{E} = {students in a school}

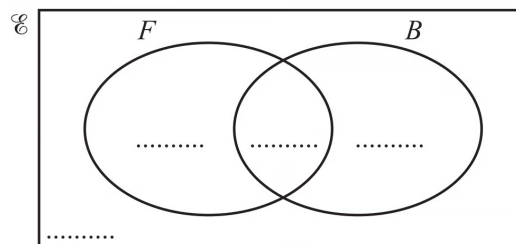
F = {students who play football}

B = {students who play baseball}

There are 240 students in the school.

- 120 students play football
- 40 students play baseball
- 90 students play football but not baseball.

Complete the Venn diagram to show this information.



[2]

[2 marks]

Question 3b

A student in the school is chosen at random.

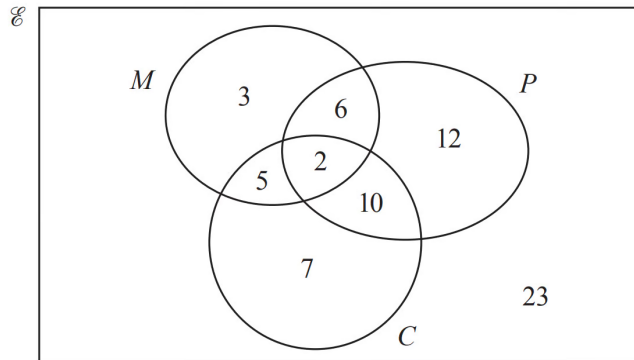
Find the probability that this student plays baseball but not football.

[1]

[1 mark]

Question 4

The Venn diagram below shows information about the number of gardeners who grow melons (M), potatoes (P) and carrots (C).



A gardener is chosen at random from the gardeners who grow melons.

Find the probability that this gardener does not grow carrots.

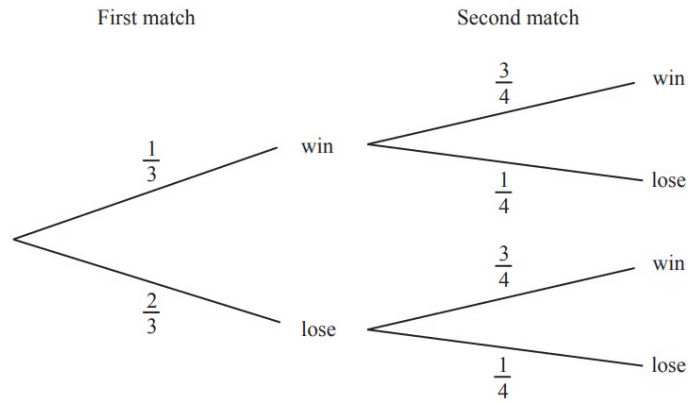
[2]

[2 marks]

Question 5

A soccer team plays two matches.

The tree diagram shows the probability of the team winning or losing the matches.



Find the probability that the soccer team wins at least one of the two matches.

[3]

[3 marks]