

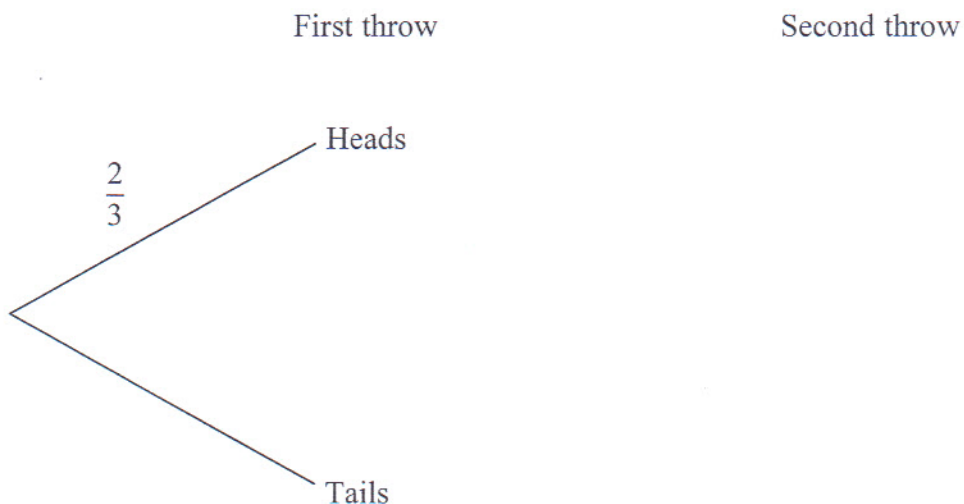
NOV 08 41

11. A coin is biased.

When it is thrown, the probability that it shows Heads is $\frac{2}{3}$

Dorcas throws the coin twice.

(a) Complete the probability tree diagram.



(3)

(b) Find the probability that the coin shows Heads both times.

.....
(2)

(c) Find the probability that the coin shows Heads at least once.

.....
(3)

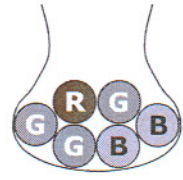
(Total 8 marks)

Q11



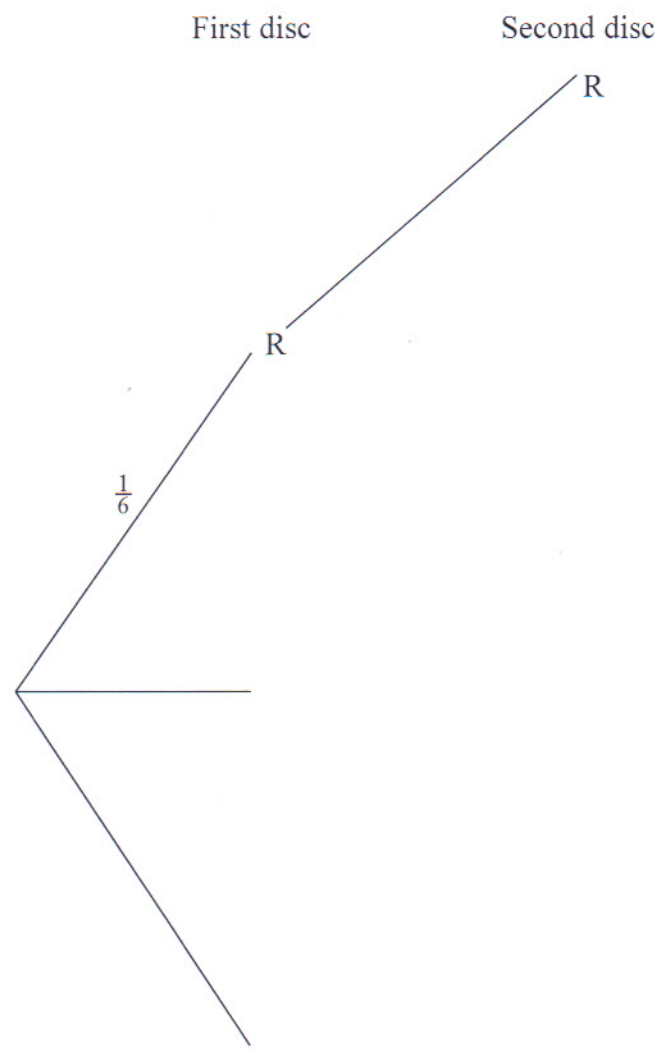
Nov 05 4H

13. A bag contains 1 red disc, 2 blue discs and 3 green discs.



Xanthe chooses a disc at random from the bag. She notes its colour and replaces it. Then Xanthe chooses another disc at random from the bag and notes its colour.

(a) Complete the probability tree diagram showing all the probabilities.



(3)



Nov 05 4H
Q13 cont.

(b) Calculate the probability that both discs are the same colour.

.....
(3)

(c) Calculate the probability that **neither** disc is red.

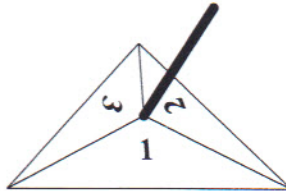
.....
(2)

(Total 8 marks)

Q13

14. Here is a fair 3-sided spinner.

May 04 44



Its sides are labelled 1, 2 and 3 as shown.

- (a) Aisha is going to spin the spinner twice.
Work out the probability that it will land on 1 both times.

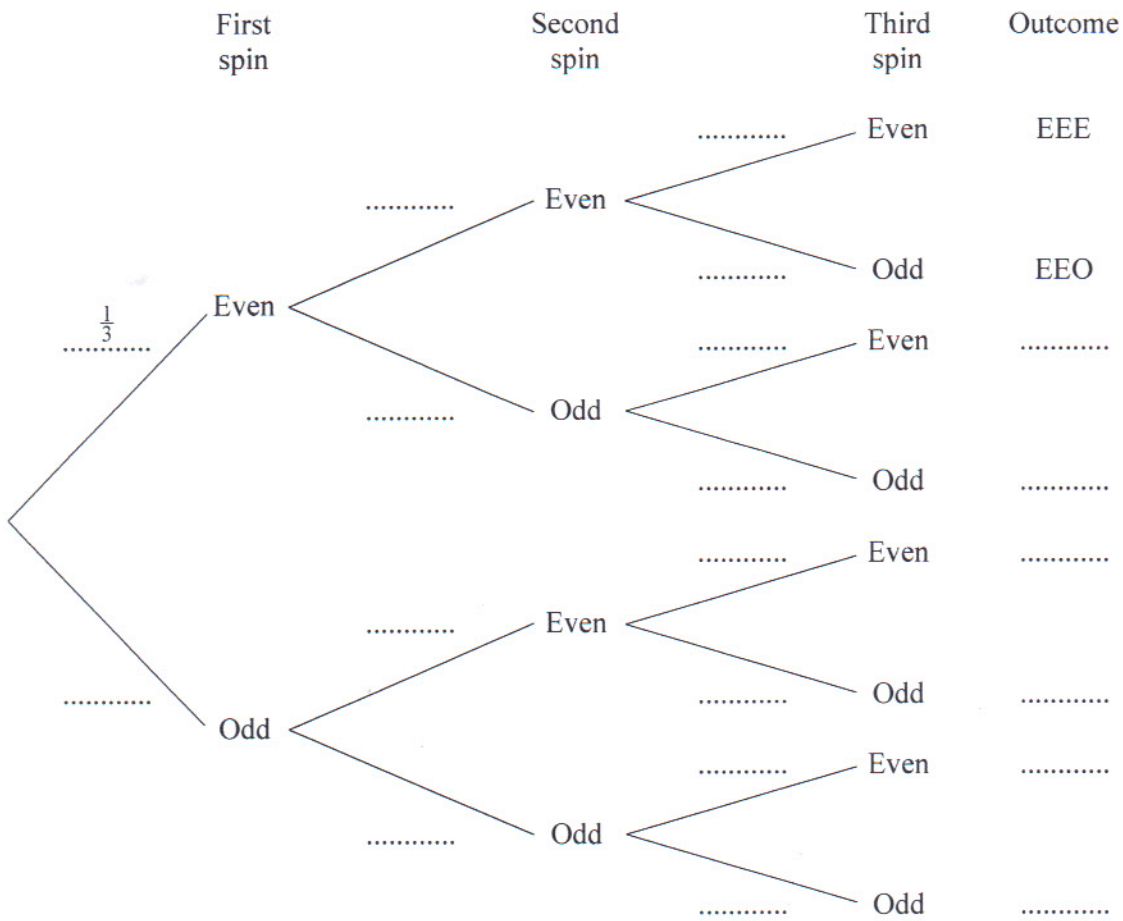
.....
(2)

(b) Harry is going to spin the spinner 3 times.

May 04 4H 14 cont.

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(i) Complete the probability tree diagram.



(ii) Work out the probability that the spinner will land on an odd number 3 times.

.....

(iii) Work out the probability that the spinner will land on an even number exactly once.

.....

(9)

Q14

(Total 11 marks)

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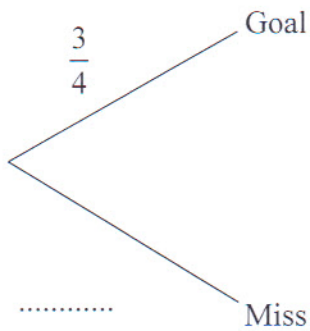
17. Each time Nikos has a shot at goal, the probability that he will score a goal is $\frac{3}{4}$

Nikos takes two shots.

(a) Complete the probability tree diagram.

First shot

Second shot



(2)

(b) Calculate the probability that Nikos will score

(i) two goals,

.....
(2)

(ii) exactly one goal.

.....
(3)



Now of 3H Q17 cont .

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blank

Nikos now takes another three shots.

(c) Calculate the probability that he will score exactly 1 goal or exactly 2 goals.

.....

(3)

Q17

(Total 10 marks)

NDJ 09 3H

20. Each time Jeni plays a computer game the probability that she will win is $\frac{2}{3}$

Jeni plays the computer game 3 times.

Calculate the probability that Jeni will win

(a) all 3 games,

.....
(2)

(b) exactly 2 out of the 3 games.

.....
(3)

(Total 5 marks)

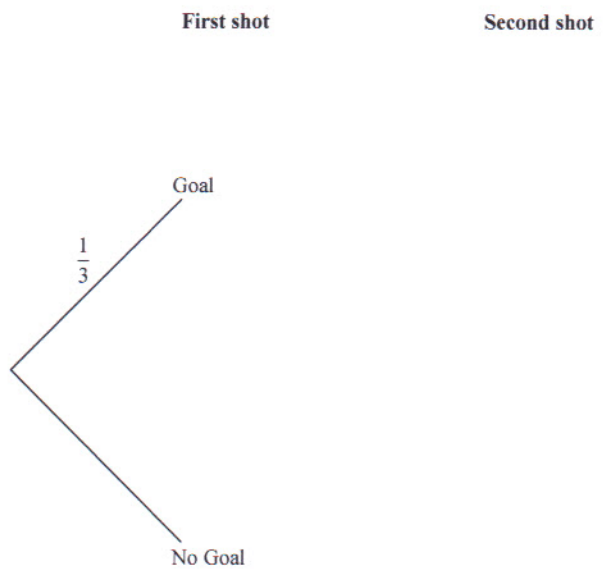
Q20

May 08 44

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13. Each time Astrid takes a shot at goal, the probability that she will score is $\frac{1}{3}$
Astrid takes two shots.

(a) Complete the probability tree diagram.



(3)

(b) Calculate the probability that Astrid scores at least 1 goal.

(3)

Q13

(Total 6 marks)