2. Brett plays a game with only two outcomes, win and lose.

The game has 3 levels of difficulty, easy, medium and hard.

Brett plays the game exactly 3 times each day, always starting with an easy level game.

- the probability that Brett wins an easy level game is 0.9
- the probability that Brett wins a medium level game is 0.6
- the probability that Brett wins a hard level game is 0.3
- if a game is lost, then the next game that day is at the same level of difficulty
- if a game is won, then the next game that day is at the next level of difficulty

(a) Complete the tree diagram on the opposite page to illustrate this information.
You should

- add the remaining branches
- include all the remaining probabilities

(3)

(b) Find the probability that Brett wins all 3 games on a given day.

(2)

(c) Find the probability that Brett wins exactly 2 games on a given day.

(3)

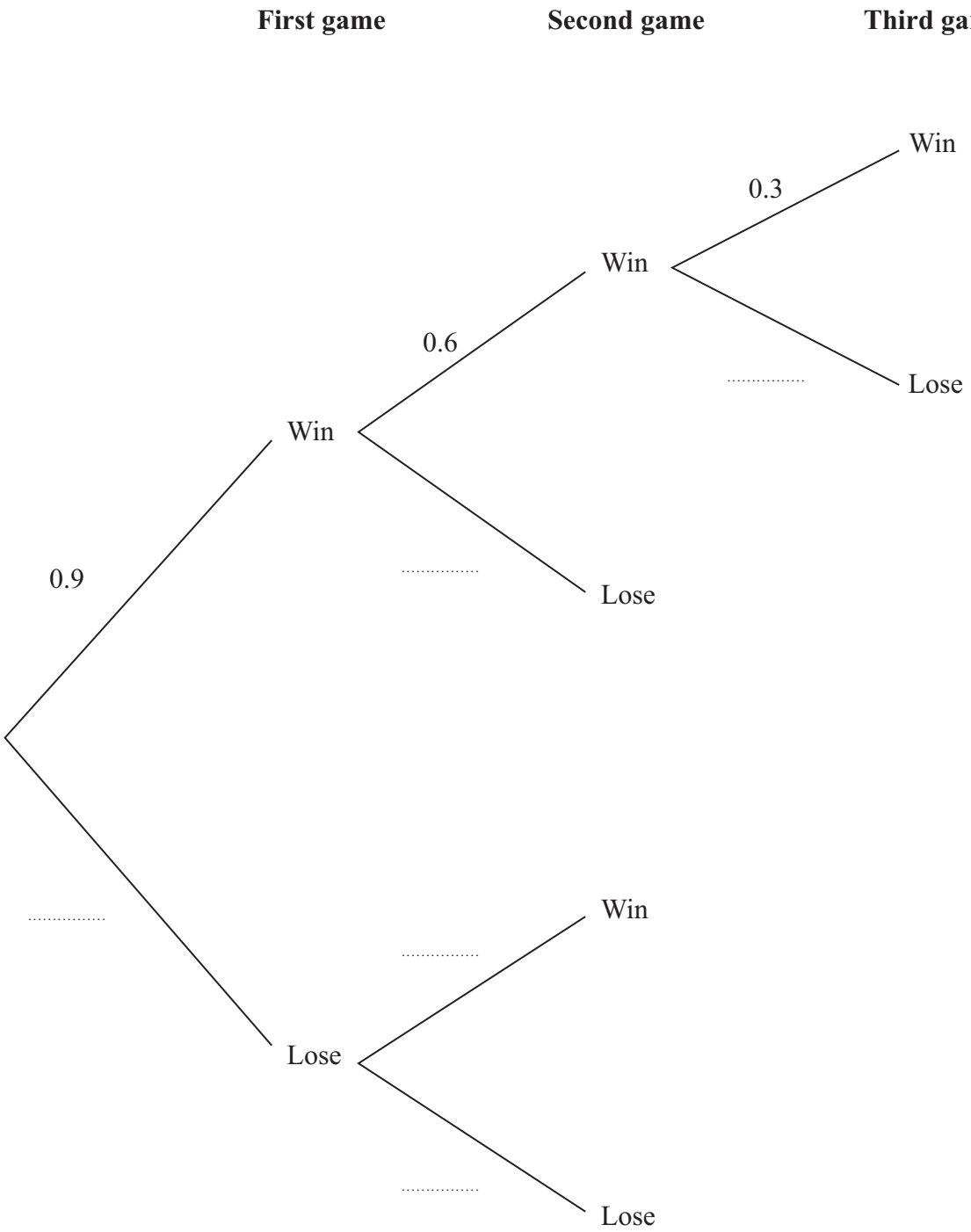
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Question 2 continued



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Question 2 continued

(Total for Question 2 is 8 marks)