1. Sally plays a game in which she can either win or lose.

A turn consists of up to 3 games. On each turn Sally plays the game up to 3 times. If she wins the first 2 games or loses the first 2 games, then she will not play the 3rd game.

- The probability that Sally wins the first game in a turn is 0.7
- If Sally wins a game the probability that she wins the next game is 0.6
- If Sally loses a game the probability that she wins the next game is 0.2

(a) Use this information to complete the tree diagram on page 3

(3)

(b) Find the probability that Sally wins the first 2 games in a turn.

(2)

(c) Find the probability that Sally wins exactly 2 games in a turn.

(2)

Given that Sally wins 2 games in a turn,

(d) find the probability that she won the first 2 games.

(2)

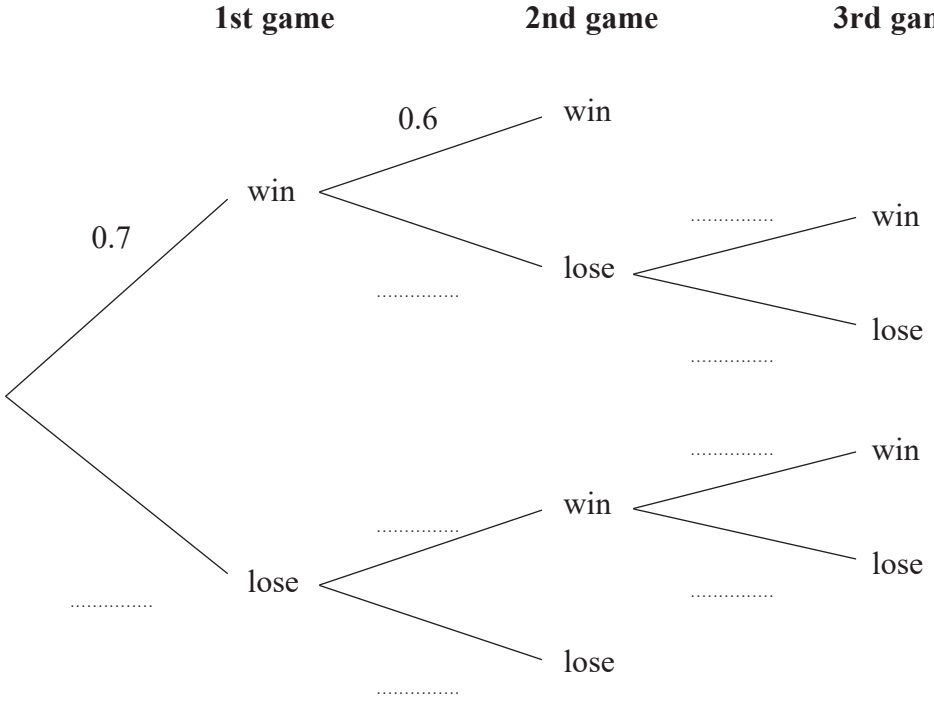
Given that Sally won the first game in a turn,

(e) find the probability that she won 2 games.

(2)

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Question 1 continued



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Question 1 continued

(Total for Question 1 is 11 marks)