

# MA1S02 Coursework 2 The Who want to take it or strike it castle maze Challenge

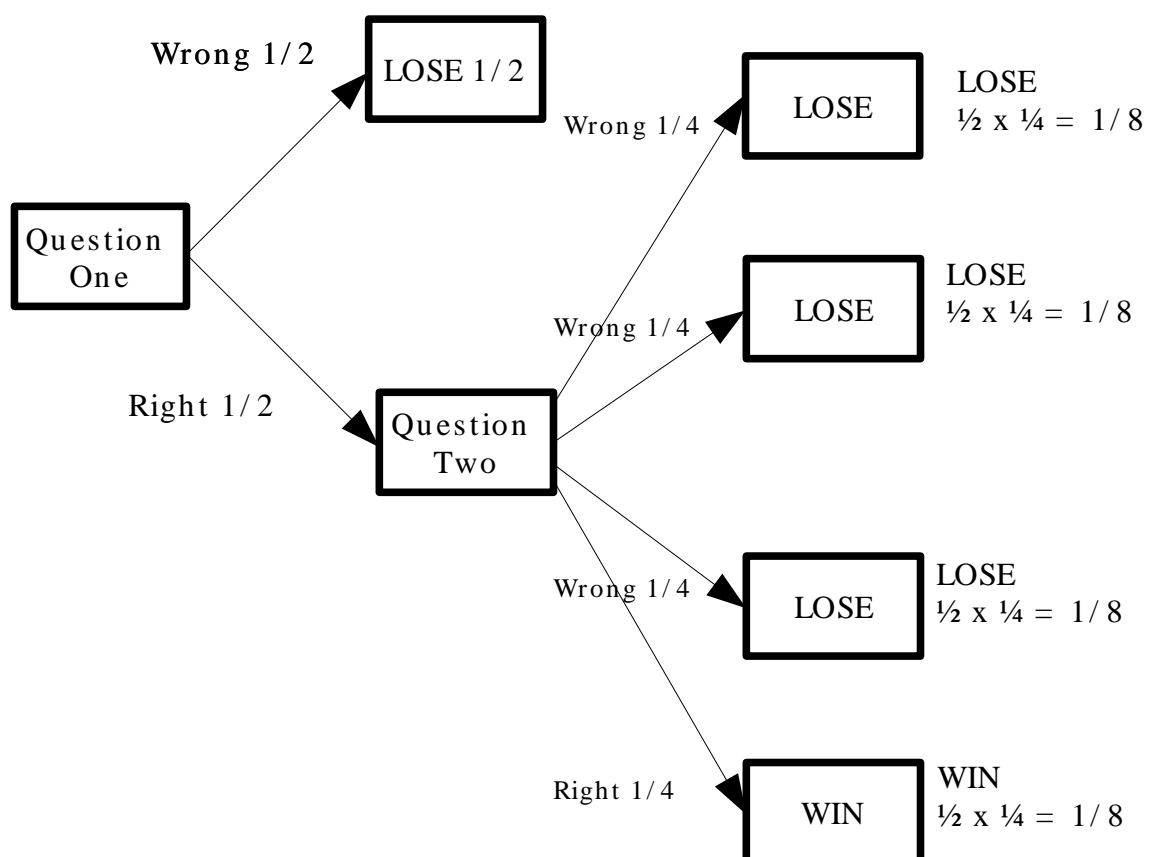
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## Coursework Brief

This coursework assumes that you have entered a fictional TV game show. You've entered because you want to win £20,000 in order for you to take your family on a holiday of a lifetime. Work through the following questions. You must give all of your working.

### Question One

Question One with 50/50 for the first question.

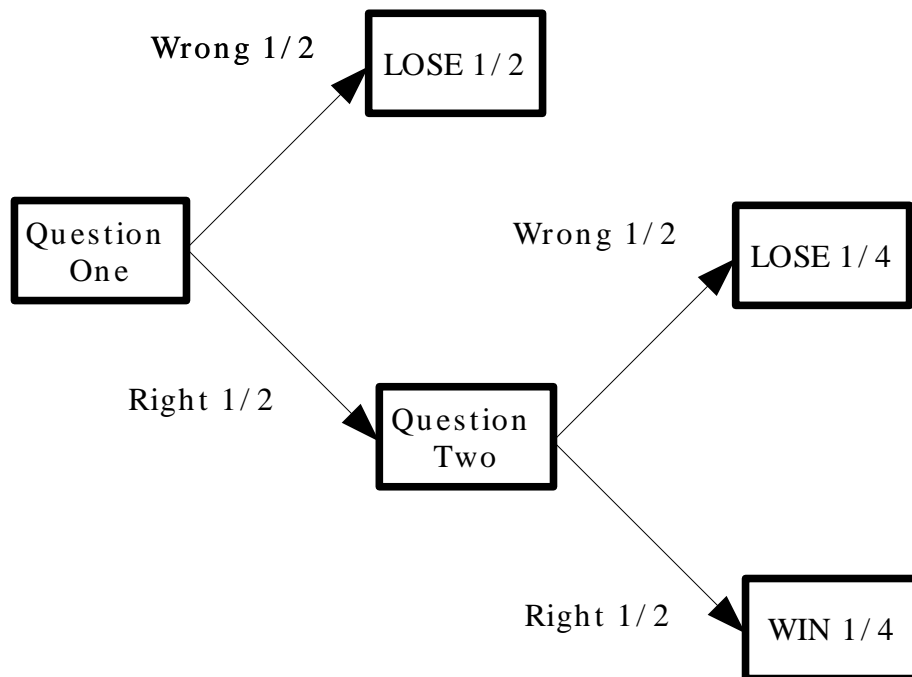


The total probability of losing is  $(1/8 + 1/8 + 1/8 + 1/2) = 7/8$  (0.875)

The probability of losing on the first question is  $1/2$  (0.5)

The probability of getting both right is  $(1/2 \times 1/4) = 1/8$  (0.125)

Question One with 50/50 for the first and second question.

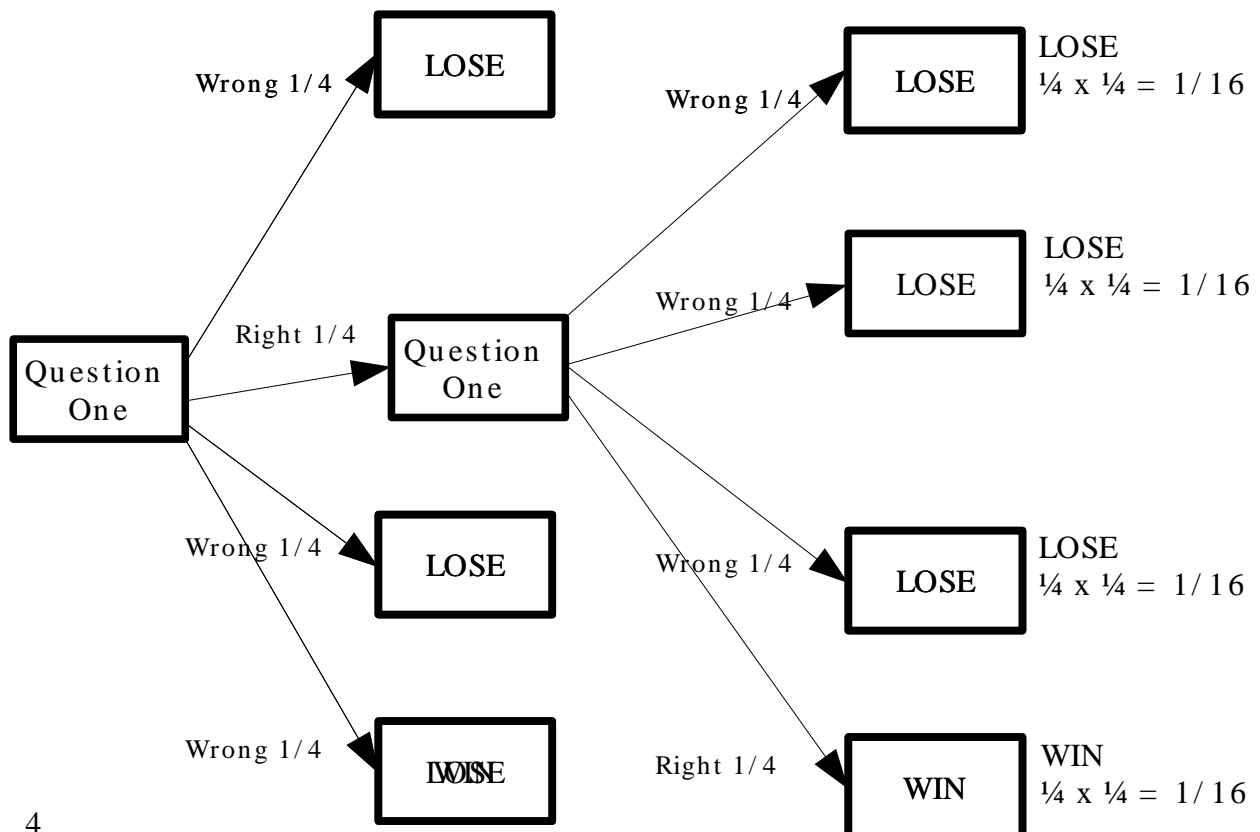


The total probability of losing is  $(\frac{1}{2} + \frac{1}{4}) = \frac{3}{4}$  (0.75)

The probability of losing on the first question is  $\frac{1}{2}$  (0.5)

The probability of getting both right is  $(\frac{1}{2} \times \frac{1}{2}) = \frac{1}{4}$  (0.25)

Question One with no 50/50 on any of the questions.



The total probability of losing is  $(1/16 + 1/16 + 1/16 + 1/4 + 1/4 + 1/4) = 15/16$  (0.9375)

The probability of losing on the first question is  $3/4$  (0.75)

The probability of getting both right is  $(1/4 \times 1/4) = 1/16$  (0.0625)

## ***Question Two***