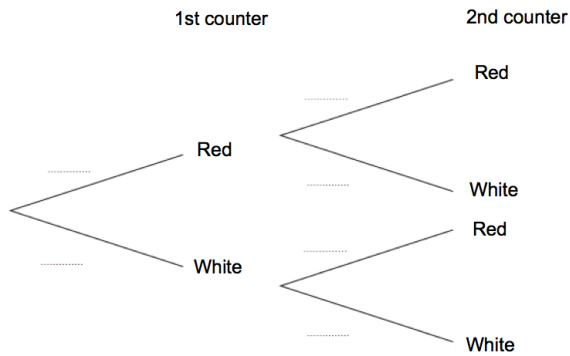


Solve

$$m^2 + 24m + 63 = 0$$

Solve

$$m^2 - 16m + 64 = 0$$



Complete the probability tree diagram.

Grace has a bag of marbles.  
 There are 5 red and 7 white marbles.  
 Grace takes out a marble at random and records the colour.  
 Grace puts the marble back into the bag and then takes out another marble.

Find the probability that the two marbles are red

James has organised a game to raise money for charity at a local fair.  
 He rolls a fair six sided dice and flips a fair coin.  
 If the coin lands on heads, the number on the dice is **squared**.  
 If the coin lands on tails, the number on the dice is **cubed**.

Each person pays 50p to play.  
 If they score above 30, they win £1  
 The game is played 450 times.

How much money should James expect to raise for charity?

