

1st February



Corbettmaths

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

$$(m + 21)(m + 3) = 0$$

$$m = -21 \text{ or } m = -3$$

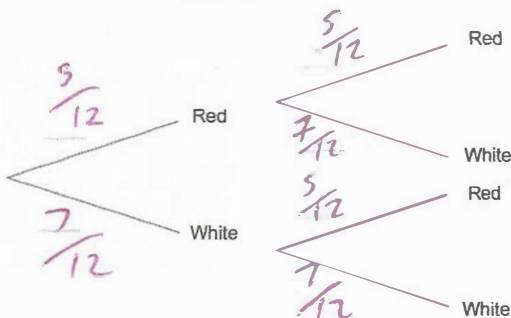
Solve $m^2 - 16m + 64 = 0$

$$(m - 8)(m - 8) = 0$$

$$m = 8$$

1st counter

2nd counter



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

$$\frac{5}{12} \times \frac{5}{12} = \frac{25}{144}$$

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 does James raise for charity?

$$450 \times 50p = \pounds 225$$



	1	2	3	4	5	6
H	1	4	9	16	25	36
T	1	8	27	64	125	216

$$P(\text{above } 30) = \frac{4}{12} = \frac{1}{3}$$

$$\frac{1}{3} \text{ of } 450 = 150 \text{ winners}$$

$$225 - 150 = \pounds 75$$