



# Fill In The Blanks...



## More Tree Diagrams for Independent Events

Question	Tree Diagram	Probability
<p>Two students, Maria and Maysoon each sit their driving theory exam. Complete the tree diagram and calculate the probability of each outcome.</p>	<p style="text-align: center;"><b>Maysoon</b></p>	$P(PP) = 0.4 \times 0.4 = 0.16$
		$P(PF) = 0.4 \times 0.6 = 0.24$
		$P(FP) = 0.6 \times 0.4 = 0.24$
		$P(FF) = 0.6 \times 0.6 = 0.36$
<p>A biased coin is tossed once and then tossed again for a second time. Complete the tree diagram and calculate the probability of each outcome.</p>	<p style="text-align: center;"><b>Second</b></p>	$P(HH) = 0.2 \times 0.2 = 0.04$
		$P(HT) = 0.2 \times 0.8 = 0.16$
		$P(TH) = 0.8 \times 0.2 = 0.16$
		$P(TT) = 0.8 \times 0.8 = 0.64$
<p>A car travels through two sets of traffic lights. The probability of stopping at each set is the same. Complete the tree diagram and calculate the probability of each outcome.</p>	<p style="text-align: center;"><b>2nd Set</b></p>	$P(SS) = \frac{3}{7} \times \frac{3}{7} = \frac{9}{49}$
		$P(SG) = \frac{3}{7} \times \frac{4}{7} = \frac{12}{49}$
		$P(GS) = \frac{4}{7} \times \frac{3}{7} = \frac{12}{49}$
		$P(GG) = \frac{4}{7} \times \frac{4}{7} = \frac{16}{49}$
<p>There are 12 red or blue balls in a box. There are more blue balls than red balls. A ball is removed at random, the colour recorded, then replaced. A second ball is then removed. Complete the tree diagram and probabilities.</p>	<p style="text-align: center;"><b>2nd Ball</b></p>	$P(RR) = \frac{5}{12} \times \frac{5}{12} = \frac{25}{144}$
		$P(RB) = \frac{5}{12} \times \frac{7}{12} = \frac{35}{144}$
		$P(BR) = \frac{7}{12} \times \frac{5}{12} = \frac{35}{144}$
		$P(BB) = \frac{7}{12} \times \frac{7}{12} = \frac{49}{144}$