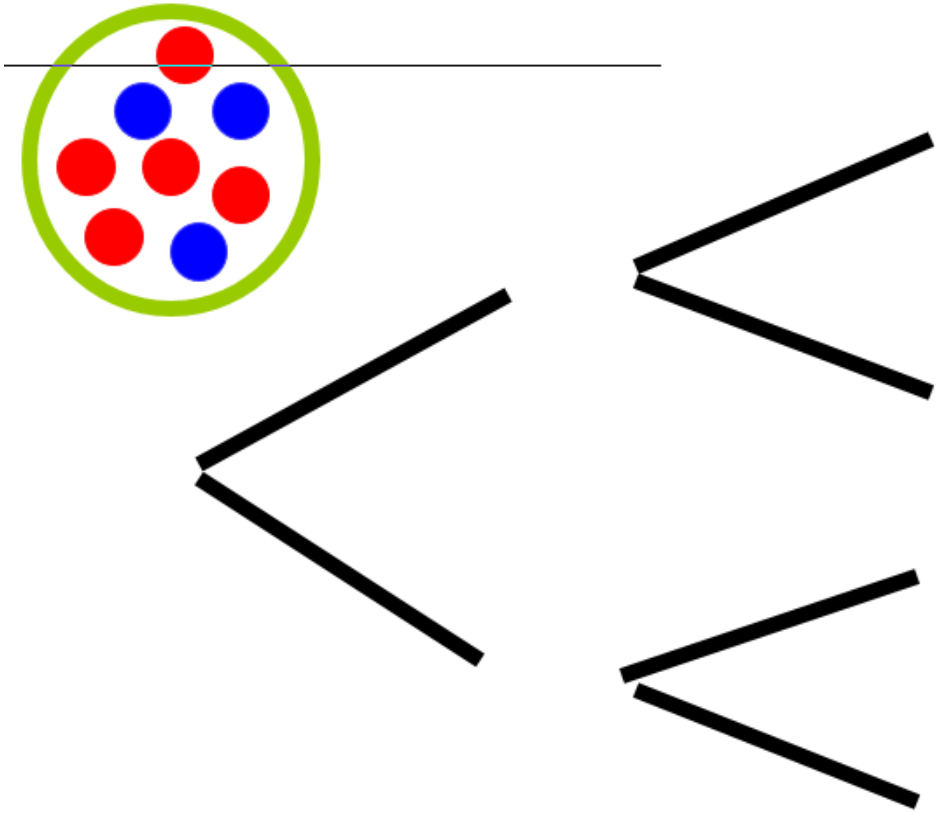
Starter:

A bag contains 3 blue and 5 red beads. One is taken out and the colour noted and is then replaced in the bag.

What is the probability of picking two of the same colour?

A bag contains 3 blue and 5 red beads. When a bead is taken from the bag, **it is replaced**. Draw a tree diagram to show all the probabilities for each case.



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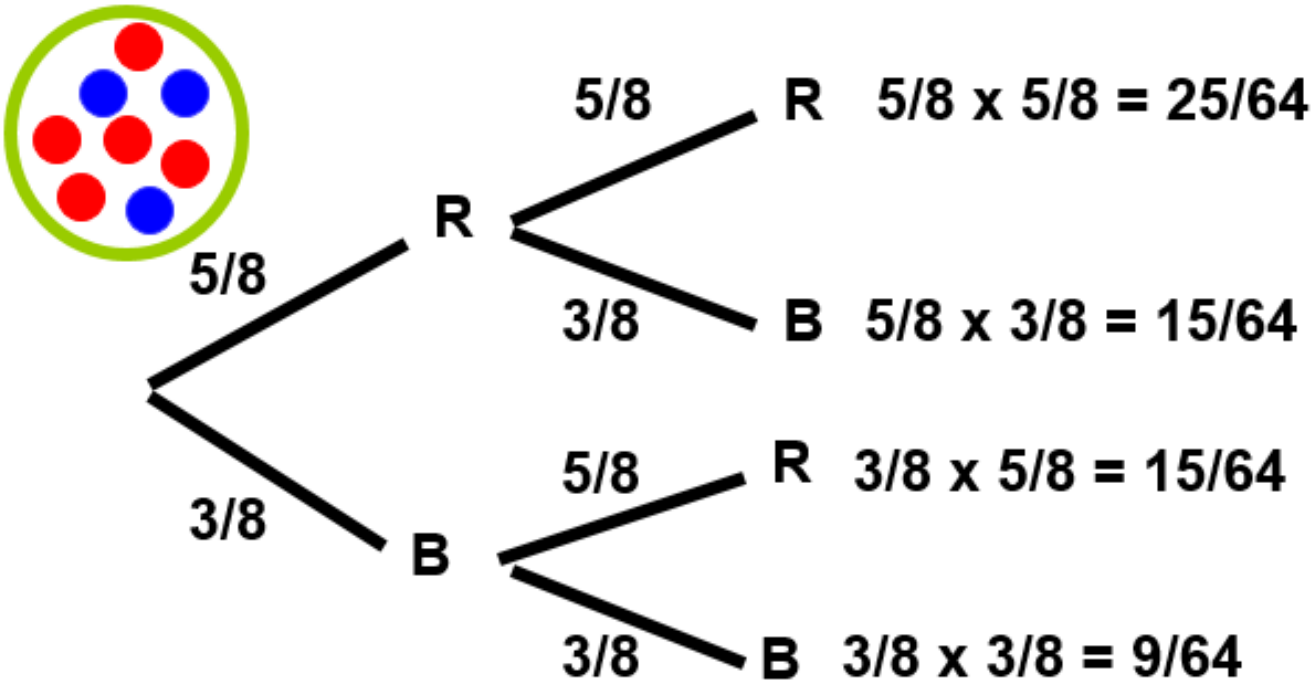
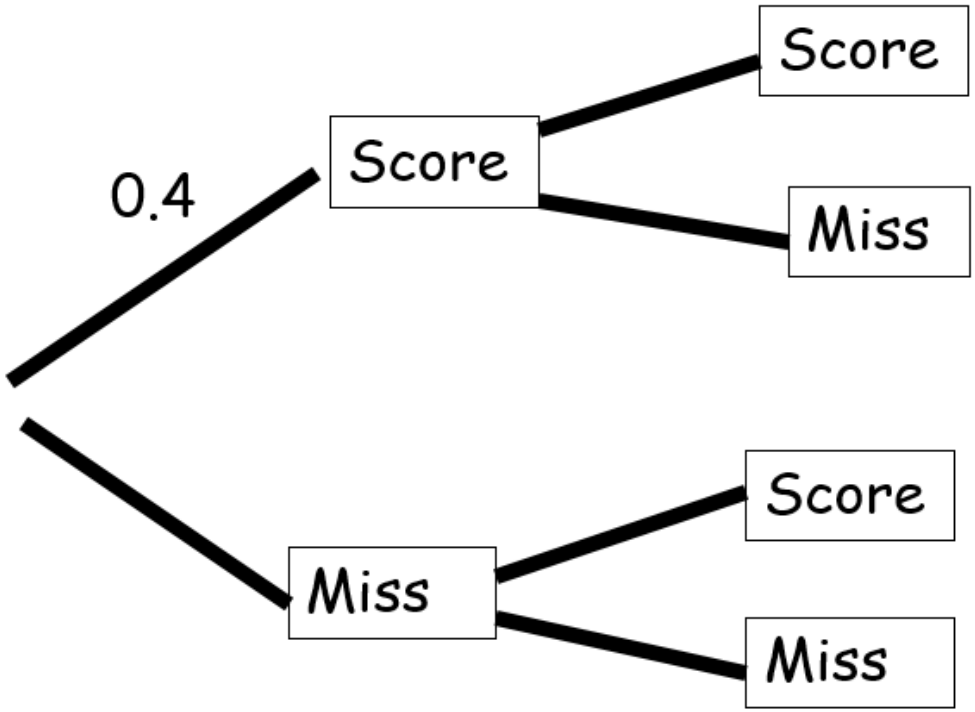


The probability that Alan will score with a shot at goal, is 0.4. Alan has two shots at goal

(a) Put all the probabilities onto the tree diagram.

(b) Calculate the probability that Alan will score

(i) two goals (ii) exactly one goal iii) no goals



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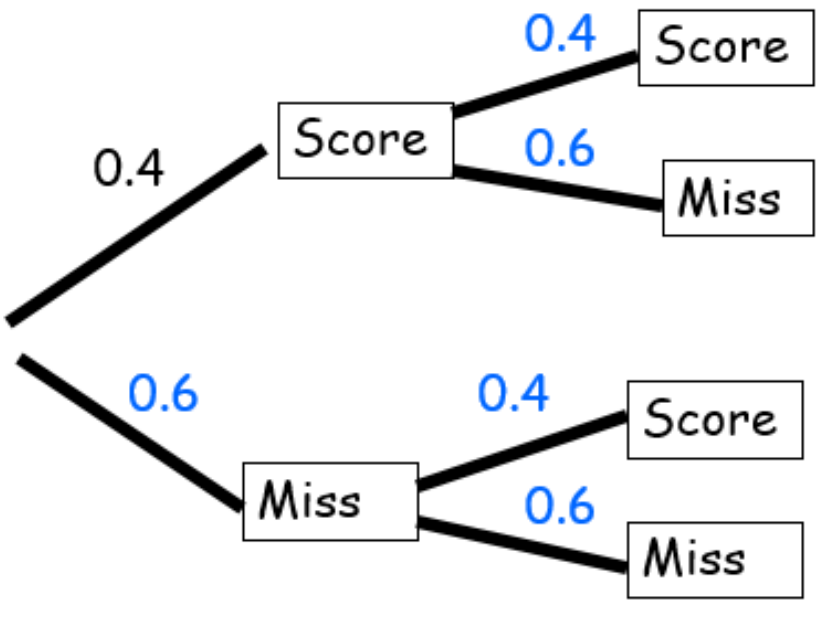


(b)

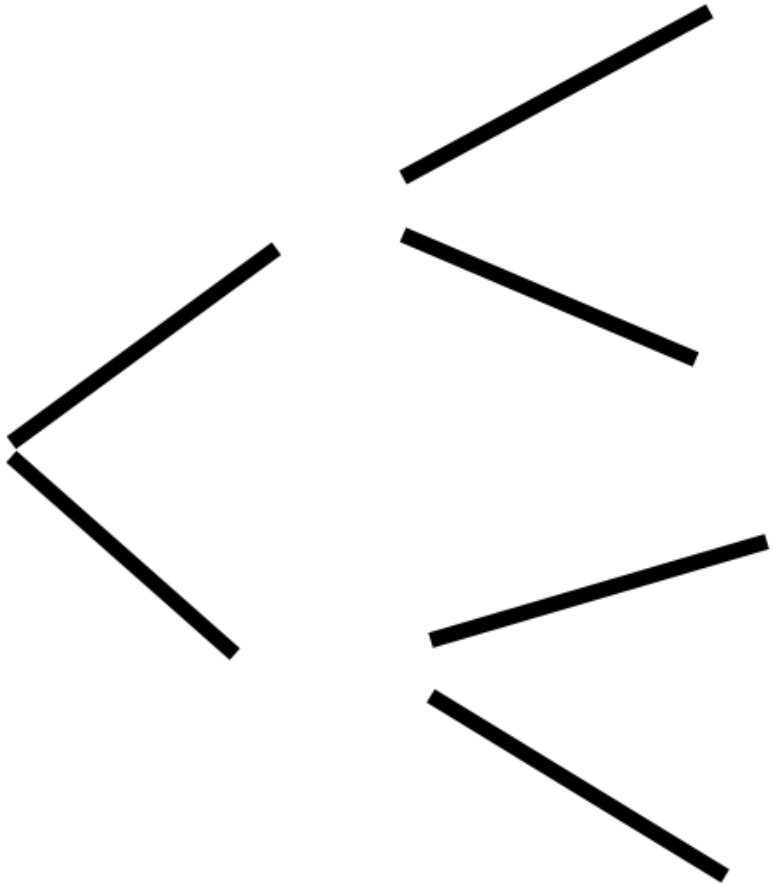
i. $0.4 \times 0.4 = 0.16$

ii. $(0.4 \times 0.6) + (0.6 \times 0.4)$

$= 0.48$

iii.. $0.6 \times 0.6 = 0.36$

Annie's Cafe - Menu	
Ice Cream Flavours	Strawberry Mint Chocolate Vanilla
Drinks	Tea Coffee Juice



Draw a tree diagram to find the probability of choosing a mint ice cream and a tea.

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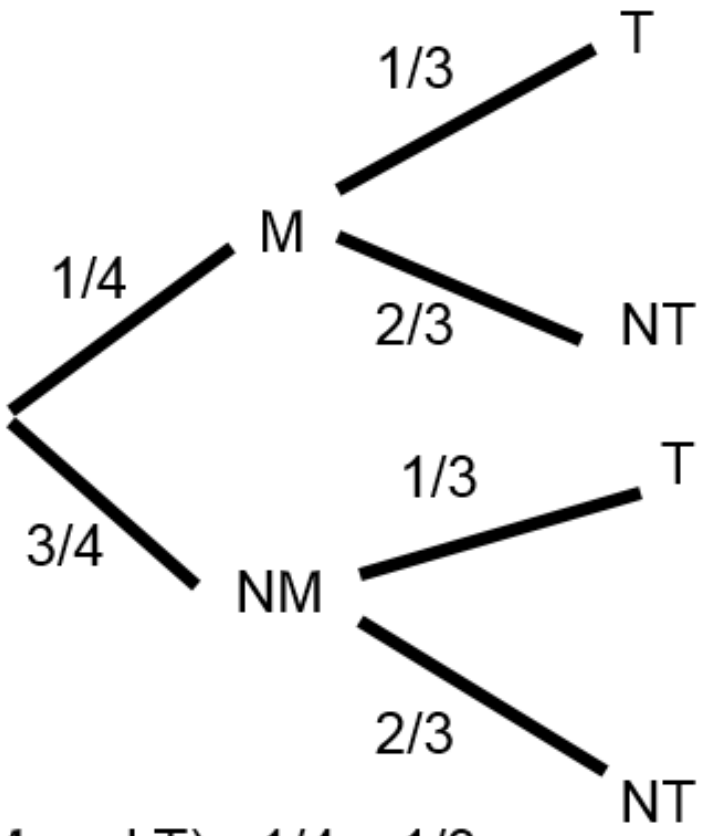
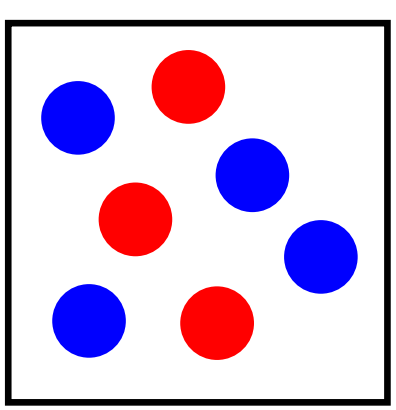
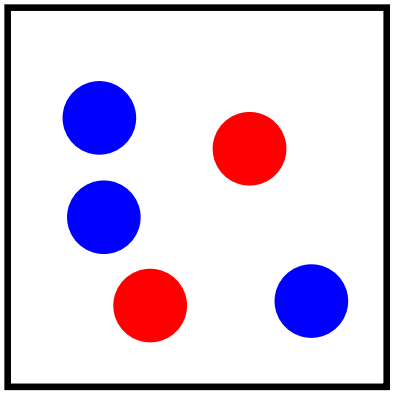


P(M and T) =1/4 x 1/3

= 1/12



A



B

Draw a probability tree diagram to show the outcomes of picking one ball form each box.

Now complete exercise 5J

from the unit 1 textbook

Extension.

In a draw are some beads, 10 beads are blue and x beads are red, what is the probability of picking two beads of the same colour.

Express your answer as a fraction in terms of x.