

Date: KEY

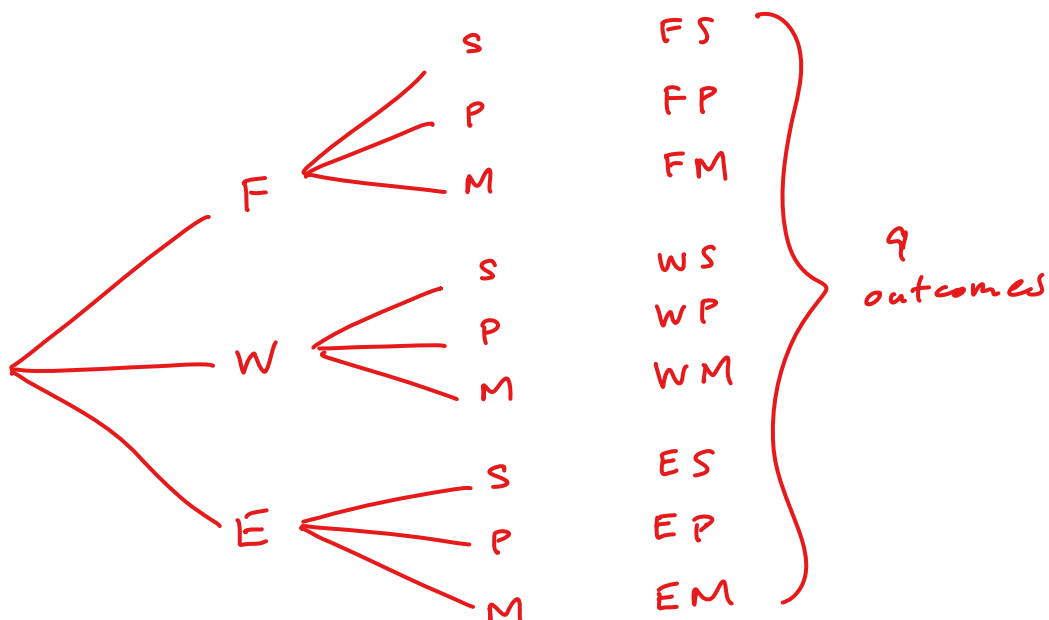
11.2 Notes: Outcome of Independent Events

Chef Worobetz has a new lunch special. For \$6 you can choose one appetizer, one main meal and one drink.

Appetizers: ^F Yam Fries, ^W Ostrich Wings, ^E Escargot 3 options

Main Meals: ^S Turkey Sandwich, ^P Pigeon Toe Pie, ^M Mac and Cheese Surprise 3 options.

Use a tree diagram to find out how many different combinations of appetizer and main meal there are.



Chef offers the following drinks to go with the meal combinations.

Drinks: ^S Spinach Milkshake, ^J Banana Juice 2 options

How could you add these to your existing tree diagram to find out the total number of possible combinations? You'd add 2 options branching off each of the nine branches, for 18 outcomes

Find the following:

- a) # of appetizers 3
- b) # of main meals 3
- c) # of drinks 2

How are these numbers related to the total number of combinations?

$$3 \times 3 \times 2 = 18$$

(A,B)

Fraser is playing a game where he flips a coin, rolls a 4-sided die and spins a 2 section spinner. How many outcomes do you think there are in total? Can you make a prediction without drawing a tree?

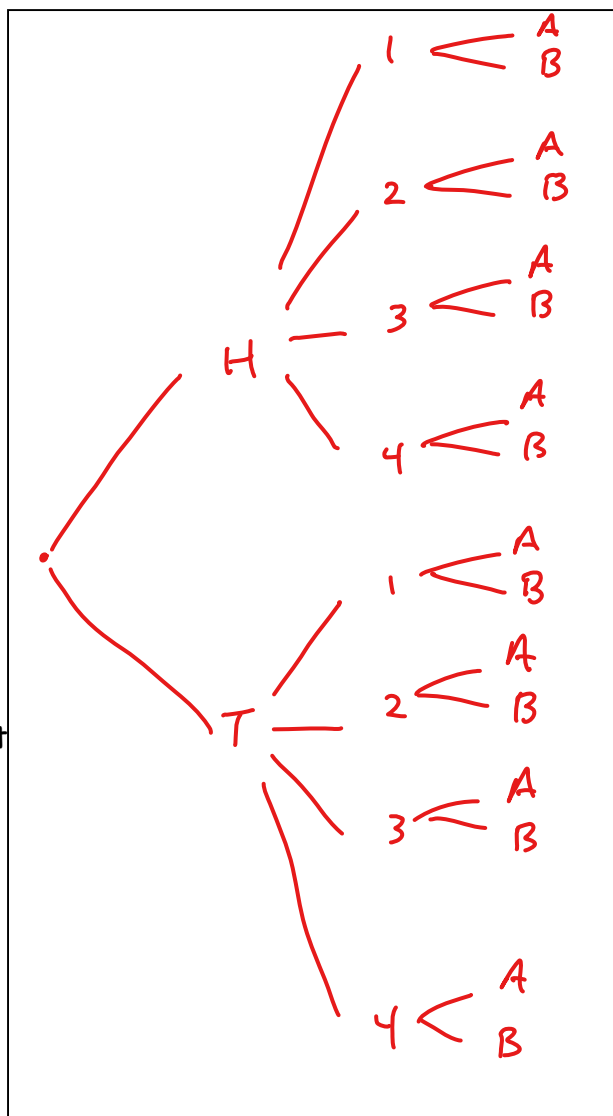
$$2 \times 4 \times 2 = 16$$

Check your answer by drawing a tree diagram to the right:

Note: A tree diagram doesn't have to go from the top down. It can also go from left to right!

Brangelina has 5 different shirts, 4 hats, 3 pairs of pants and 9 pairs of shoes. How many different outfits can Brangelina come up with to go to the Fall Ball at the Mall.

$$5 \times 4 \times 3 \times 9 = \boxed{540}$$



Peter and Janine are flying to Mexico. There are several flights that go through each city on the way. How many different paths are there in total?

