


Probability Notes


Possible Outcomes

Tossing a coin H T (2)




Tossing 2 coins H T

 $2 \cdot 2 = 4$
Sample Space
HH, HT, TH, TT
4 possible outcomes

Tossing 3 coins

 $2 \cdot 2 \cdot 2 = 2^3 = 8$ outcomes

Tossing 2 coins and 1 die

 $2 \cdot 2 \cdot 6 = 24$ outcomes

1 Spin and Toss 2 coins



 $4 \cdot 2^2 = 16$ outcomes

Lunch choices


<u>Sandwiches</u>	<u>Side dishes</u>	<u>Drink</u>
Turkey	Sandwiches Fruit	Water
Ham	Chips	Milk
Veggie		Juice

$$3 \cdot 2 \cdot 3 = 18 \text{ outcomes}$$

Probability Notes

Probability of an event = $\frac{\text{how many you have}}{\text{possible outcomes}}$

Find each probability.

A die is rolled. 

$$P(3) = \frac{1}{6}$$

$$P(1 \text{ or } 3) = \frac{2}{6} = \frac{1}{3}$$

$$P(\text{not } 5) = \frac{5}{6}$$

Find each probability.

In a jar there are 4 red marbles, 2 blue marbles, and 1 green marble.

$$P(\text{blue}) = \frac{2}{7}$$



$$P(\text{blue or green}) = \frac{3}{7}$$

$$P(\text{not not blue}) = \frac{5}{7}$$

Sample Space.

List all of the members of the sample space given 1 coin and 1 die.

H, 2H, 3H, 4H, 5H, 6H

T, 2T, 3T, 4T, 5T, 6T



$$\text{What is } P(2, H) ? = \frac{1}{6} \cdot \frac{1}{2} = \frac{1}{12}$$

$$\text{What is } P(\text{not even}, T) ? = \frac{3}{6} \cdot \frac{1}{2} = \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$