

Warm-Up



1. Put your phones away.
 2. Work on EOC Packet #27-29
- 1st - We will finish 23-26

Oct 23-7:39 AM

What am I learning today?

Learning Objective 6.1

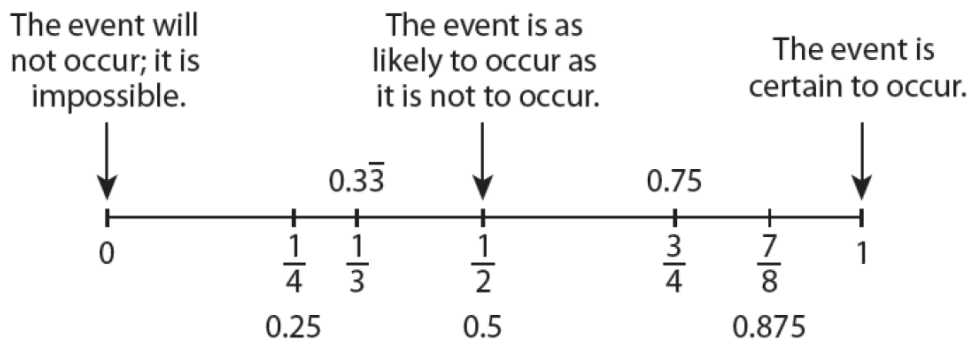
How to calculate simple probability.

Jul 31-6:18 PM

Probability - The CHANCE or 'how likely' an **event** will occur

- We normally write them in **FRACTIONS** form first
- The number should be between 0 to 1
- The percentage should be from 0% to 100%

(just multiple you probability by 100)



Apr 24-7:57 AM

Number of Possibilities - The number of ALL possible outcomes from each separate event MULTIPLIED together

1. How many possibilities are there when you roll a die?

6 possible outcomes

2. How many possible outcomes are there when you flip a coin?

2 possible outcomes

3. How many possible outcomes are there when you flip two coins?

1st 2nd
 $2 \cdot 2 = 4$ possible outcomes

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4. Find the number of possible outcomes when an ice cream stand offers waffle-cones or bowls in three different flavors: strawberry, chocolate, and vanilla

$$\begin{array}{c} \text{holder} \\ \hline 2 \end{array} \cdot \begin{array}{c} \text{Flavors} \\ \hline 3 \end{array} = 6 \text{ possible outcomes}$$

5. Find the number of possible outcomes when you choose a shirt and a pair of pants when you have 10 different shirts and 5 pairs of pants?

$$\begin{array}{c} \text{shirts} \\ \hline 10 \end{array} \cdot \begin{array}{c} \text{pants} \\ \hline 5 \end{array} = 50 \text{ possible outcomes}$$

Apr 24-8:00 AM

Sample Space - The set/list of **ALL** possible outcomes of an event/experiment (write with brackets { })

1. What is the sample space of flipping a coin?

2 possible outcomes

{ H, T }

2. What is the sample space of rolling a die?

6 possible outcomes

{ 1, 2, 3, 4, 5, 6 }

3. What is the sample space of a jewelry store selling rings with either a ruby, sapphire, emerald, or diamond gemstone?

4 possible outcomes

{ ruby, sapphire, emerald, diamond }

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4. What is the sample space of flipping TWO coins? $2 \cdot 2 = 4$

$\{HT, HH, TT, TH\}$

5. What is the sample space of going to a sandwich shop and they have ham, turkey, and veggies with either white bread or wheat bread?

$3 \cdot 2 = 6$
 white $\left\{ \begin{array}{l} \text{ham} \\ \text{turkey} \\ \text{veggies} \end{array} \right.$

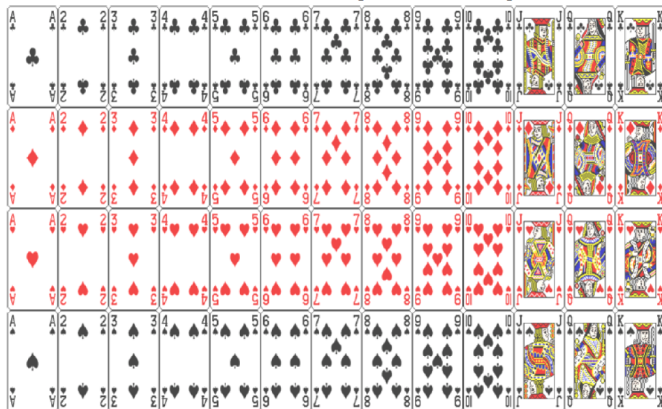
$\{WH, WT, WV, HH, HT, HV\}$

wheat $\left\{ \begin{array}{l} \text{ham} \\ \text{turkey} \\ \text{veggies} \end{array} \right.$

Apr 24-8:02 AM

Most Popular Event

Deck of Cards (No Jokers)



52 total cards

- 2 colors (red and black)
- 4 suits (Hearts, Diamonds, Spades, and Clubs)
- 13 types (A, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King)
- **Face Cards** - Jack, Queen, King
- **Lettered Cards** - Ace, Jack, Queen, King

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Calculating Probability

$$\text{probability} = \frac{\# \text{ of wanted outcomes}}{\# \text{ of ALL possible outcomes}}$$

1. What is the probability of flipping a head on a coin?

$$\frac{1}{2} \text{ OR } 0.5 \text{ OR } 50\%$$

2. What is the probability of rolling a 3 on a die?

$$\frac{1}{6} \text{ OR } 0.167 \text{ OR } 16.7\%$$

3. What is the **percentage** of flipping a coin TWICE and landing on heads at least 2 times?

$$2 \cdot 2 = 4 \quad \{ \text{HH}, \text{HT}, \text{TH}, \text{TT} \} \quad \frac{1}{4} \rightarrow 25\%$$

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4. Cards numbered 1-30 are placed in a bag. What is the probability of choosing a card that is less than 9?

$$\frac{8}{30} \rightarrow \frac{4}{15} \text{ OR } 0.267 \text{ OR } 26.7\%$$

5. P(rolling a number less than 4)

$$\frac{3}{6} \rightarrow \frac{1}{2} \text{ OR } 0.5 \text{ OR } 50\%$$

6. P(Choosing a Queen)

$$\frac{4}{52} \rightarrow \frac{1}{13} \text{ OR } 0.077 \text{ OR } 7.7\%$$

7. P(Choosing the Queen of Hearts)

$$\frac{1}{52} \text{ OR } 0.019 \text{ OR } 1.9\%$$

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4. P(Heart)

$$\frac{52}{4} = 13 \quad \frac{13}{52} \rightarrow \frac{1}{4} \text{ OR } 0.25 \text{ OR } 25\%$$

5. Each of the letters in the word IPHONE are on separate cards, face down on a table. If you pick a card at random, what is the probability that its letter will be a vowel?

$$\frac{3}{6} \rightarrow \frac{1}{2} \text{ OR } 0.5 \text{ OR } 50\%$$

6. P(rolling a number greater than 2)

$$\frac{4}{6} \rightarrow \frac{2}{3} \text{ OR } 0.667 \text{ OR } 66.7\%$$

7. In a bag there are 2 red marbles, 4 blue marbles, and 7 purple marbles. What is the probability of choosing a blue marble?

$$\frac{4}{13} \rightarrow 0.308 \text{ OR } 30.8\%$$

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8. In a bag, there are 2 blue marbles, 7 red marbles, and 1 green marble. What is the probability of choosing a purple marble?

$$\frac{0}{10} \rightarrow 0\%$$

9. P(choosing a 7 from a deck) NOT

$$\frac{52}{48} = \frac{48}{52} \rightarrow \frac{12}{13} \leftarrow A, 2, \dots, 10, J, Q, K$$

$$0.923 \text{ OR } 92.3\%$$

10. What is the probability of not rolling a 2 or 6 on a die?

$$\frac{4}{6} \rightarrow \frac{2}{3} \text{ OR } 0.667 \text{ OR } 66.7\%$$

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Classwork:

Complete the classwork about simple probability.

HW: Finish your classwork and study for the EOC (do more practice problems)

Oct 26-8:19 AM