Name:_____ Hour: _____ Date: _____

NOTES: Section 10.3 – Define and Use Probability

Goals: #1 - I can find the probability of a given event.

#2 - I can find the odds (in favor or against) a given event.

#3 - I can find the geometric probability of an event.



Homework: Lesson 10.3 Worksheet

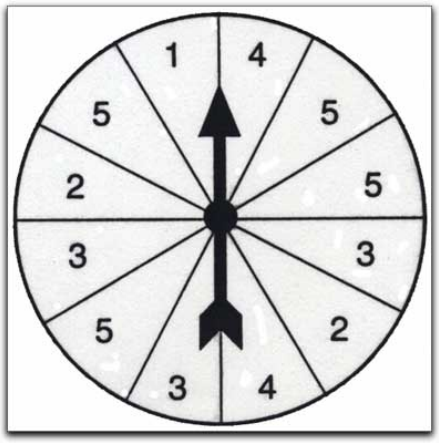
Warm Up:

1. The manager of a chain of restaurants must choose 6 restaurants from 11 for a promotion. How many different selections can be made?

2. A committee consists of 10 Republicans and 8 Democrats. In how many ways can a sub-committee be chosen if it has 5 Republicans and 4 Democrats?

3. Use the binomial theorem to expand $(3 - x^2)^4$

Exploration #1:



1. How many ways could you spin a 2?

2. How many ways could you spin a 5?

3. What is the total number of outcomes?

4. What is the ***probability*** that you will spin a 5?

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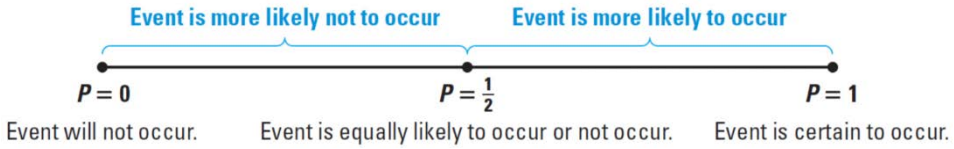
Notes:

The _____ of an event is the possible results of the event.

The _____ of an event is a number from _____ to _____ that indicates the _____ that the event will occur.



When all outcomes are equally likely, the _____ that an event *A* will occur is:

Example #1:

A card is randomly drawn from a standard deck of 52 cards. Find the probability of drawing the given card. Write your answer as a simplified fraction.

1. An eight

2. A red king

You practice:

A marble is randomly drawn from a bag. The bag contains 3 red marbles, 2 green marbles, 5 yellow marbles, and 4 blue marbles. Find the probability of choosing the given marble. Write your answer as a simplified fraction.

1. A yellow marble

2. A blue or red marble

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Notes:

You can also use _____ to measure the _____ that an event will occur.

Odds measure the changes in _____ of an event occurring or the chances _____ an event occurring:

Example #2:

A marble is randomly drawn from a bag. The bag contains 6 red marbles, 12 yellow marbles, and 9 blue marbles.

1. Find the odds in favor of drawing a red marble.

2. Find the odds against drawing a blue marble.

You practice:

A card is drawn from a standard deck of 52 cards.

1. Find the odds in favor of drawing a 10.

2. Find the odds against drawing a club.

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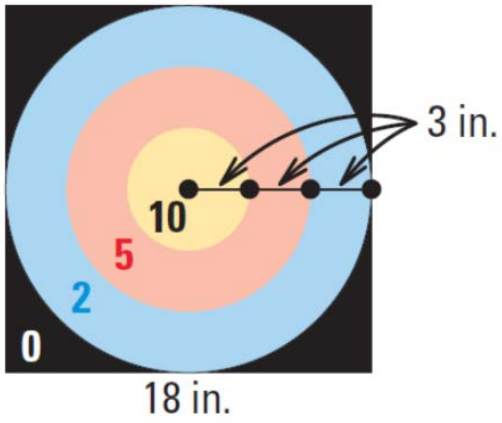
Notes:

Some probabilites are found by calculating a ration of two lengths, areas, or volumes called

_____.

Example #3: You throw a dart at the square board shown. Your dart is equally likely to hit any point inside the board. Find the probability that a dart thrown at the square target will hit the given region. Round your answer to three decimal places.

1. The center



2. The three rings (10, 5, and 2 points)

3. The 2 point or 5 point ring