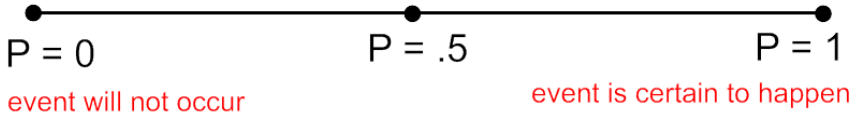
Honors Math II
Unit 10 day 3 Notes

Name_____
Period_____Date_____

Probability

ranges from 0 to 1



Theoretical probability

$$P(A) = \frac{\text{\# of outcomes in event A}}{\text{total \# of outcomes}}$$

Experimental probability

$$P_E(A) = \frac{\text{\# trials where event A occurs}}{\text{total \# of trials}}$$

6 sided die

Find the probability of rolling a 5.

Find the probability of rolling an even number.

A community center hosts a talent contest for local musicians. On a given evening, 7 musicians are scheduled to perform. The order in which the musicians perform is randomly selected during the show.

a) What is the probability that the musicians perform in alphabetical order by their last names? (Assume that no 2 musicians have the same last name)

b) You are friends with 4 of the musicians. What is the probability that the first 2 performers are your friends?

You have an equally likely chance of choosing any integer from 1 through 20. Find the probability of the given event.

a) A perfect square is chosen.

b) A factor of 30 is chosen.

You pick a card from a standard deck of 52 playing cards. Find the probability of the given event.

a) Picking an 8

b) Picking a red king

Amanda used a standard deck of 52 cards and selected a card at random. She recorded the suit of the card she picked, and then replaced the card. The results are in the table below.

Diamonds	𝍸 ||
Hearts	𝍸 ||||
Spades	𝍸 𝍸 |
Clubs	|||

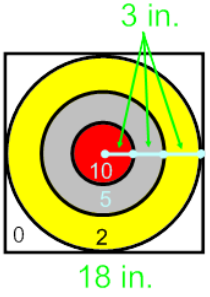
a) Based on her results, what is the experimental probability of selecting a heart?

b) What is the theoretical probability of selecting a heart?

c) Based on her results, what is the experimental probability of selecting a diamond or a spade?

d) What is the theoretical probability of selecting a diamond or a spade?

Geometric Probability



You throw a dart at the square board shown. Your dart is equally likely to hit any point inside the board. Are you more likely to get 10 points or 0 points?