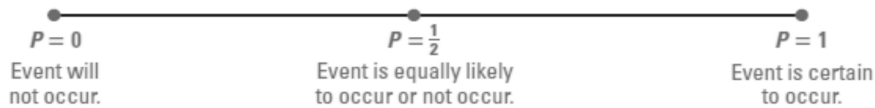


Probability

The probability of an event is a number between 0 and 1 that indicates the likelihood the event will occur.

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

.67



Probability - Finding the Probability of an Event

Ex 3. In order to choose a mascot for a new school, 1847 students were surveyed. 529 chose a falcon, 762 chose a ram, and 501 chose a panther. The remaining students did not vote. What is the probability that the student surveyed chose a panther?

$$\frac{501}{1847} = .27$$

Ex 4. Thirty students in an Analytic Geometry class took a test. There were 8 A's, 13 B's, and 9 C's.

a. What is the probability the student scored a C?

$$\frac{9}{30} = \frac{3}{10} = .3$$

b. What is the probability the student scored an A or B?

$$\frac{21}{30} = \frac{7}{10} = .7$$

Probability - Finding the Probability of an Event

Ex 1. You have a bag containing 3 red marbles, 2 green marbles, and 5 yellow marbles.

What is the probability of pulling out a red marble?

$$\frac{3}{10} = .3$$

Ex 2. You draw a card from a standard deck of 52 cards. Find the probability of drawing a face card. J Q K

$$\frac{12}{52} = \frac{3}{13} = .23 \quad 4 \ 4 \ 4$$

Probability - Finding the Probability of an Event

You Try...

Ex 5. Find the probability of choose an E when selecting a letter from those in the word COLLEGE.

$$\frac{2}{7} = .29 \quad .2857$$

Ex 6. A card is drawn from a standard deck of 52 cards. Find the probability of drawing either a club or a spade.

$$\frac{26}{52} = \frac{1}{2} = .5 \quad 13 \quad 13$$

Probability - Finding the Probability of an Event

Discussion:

What is the probability of flipping a penny and it landing on heads?

Probability - Finding the Probability of an Event

Let's see what actually happens:

Flip your penny 10 times and tally your results.

Probability - Finding the Probability of an Event

Were your results what you expected?

Probability

Theoretical probability is based on all outcomes of an event being equally likely. What you thought "should" have happened.

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

Experimental probability is a type of probability that is based on the results of an experiment, survey, or the history of an event. What actually happened when you tried it out.