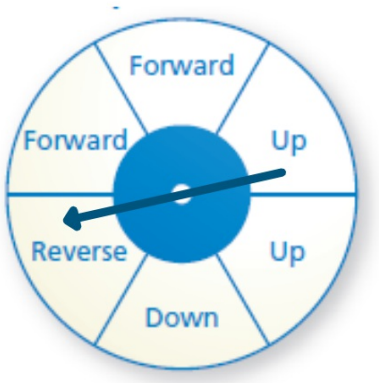
May 3, 2012

M7H

Anything to correct?

5/3 - Introduction to Probability

An **experiment** is an activity with varying results. The possible results of an experiment are called **outcomes**. A collection of one or more outcomes is an **event**. The outcomes of a specific event are called *favorable outcomes*.



Discuss with your partner:

Experiment: Spinning the spinner

Outcomes: down, up, forward, reverse

Event: Everyone in class spinning the spinner.

Favorable Outcomes: any of the 6 possibilities that make you not crash

up, up, forward, forward, Reverse, down

EXAMPLE 1 Identifying Outcomes

You roll the number cube.

a. What are the possible outcomes?

1, 2, 3, 4, 5, 6

b. What are the favorable outcomes of rolling an even number?

2, 4, 6

c. What are the favorable outcomes of rolling a number greater than 5?

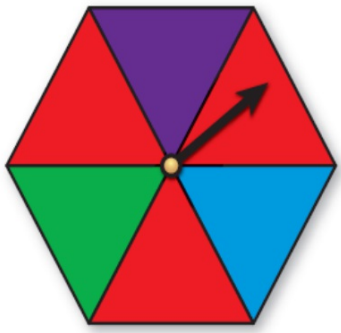
6

You randomly choose a letter from a hat that contains the letters A through K. (a) What are the possible outcomes? (b) What are the favorable outcomes of choosing a vowel?

A B C D E F G H I J K

A E I

EXAMPLE 2 Counting Outcomes



You spin the spinner.

a. How many possible outcomes are there?

6 - one for each section

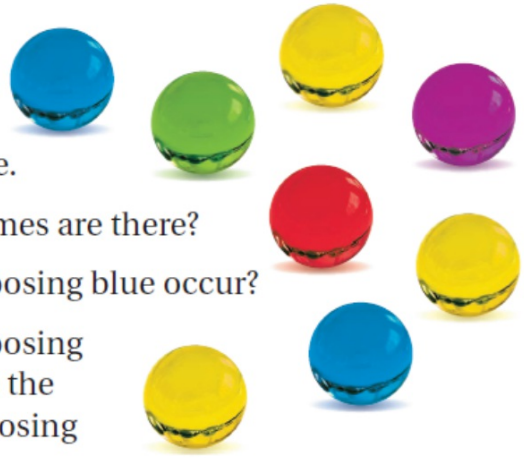
b. In how many ways can spinning red occur?

3

c. In how many ways can spinning *not* purple occur? What are the favorable outcomes of spinning *not* purple?

5

red
red
red
blue
green



You randomly choose a marble.

8 **a.** How many possible outcomes are there?

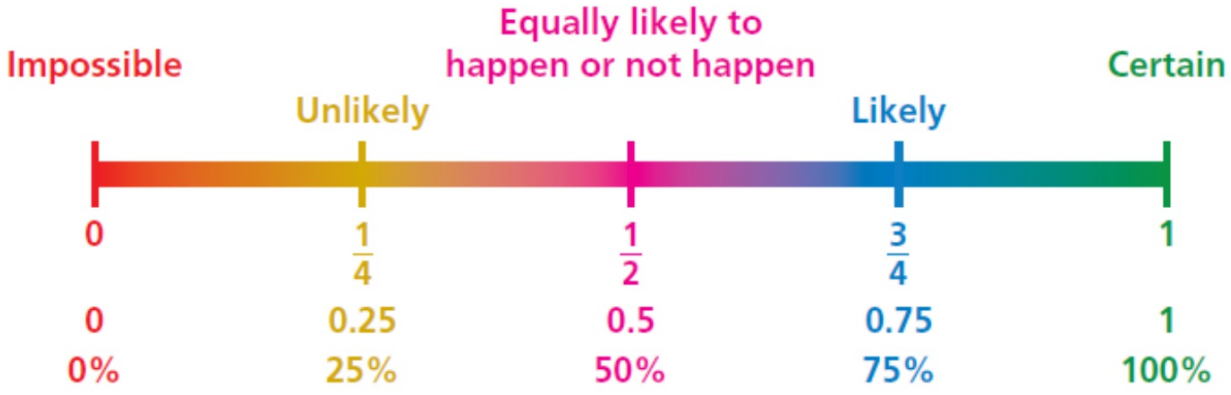
2 **b.** In how many ways can choosing blue occur?

5 **c.** In how many ways can choosing *not* yellow occur? What are the favorable outcomes of choosing *not* yellow?

→ blue, green, red, purple
blue

Probability

The **probability** of an event is a number that measures the likelihood that the event will occur. Probabilities are between 0 and 1, including 0 and 1. The diagram relates likelihoods (above the diagram) and probabilities (below the diagram).



With your partner, come up with an example of an event that is impossible, one that is certain and one that has an equal chance of happening or not.

Homework

Textbook: page 388 #1-32 all

Due