

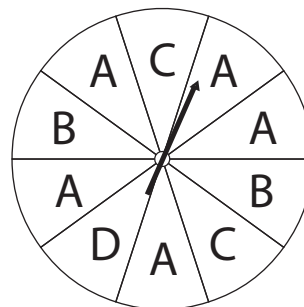
Experimental Probability



Quick Review

- Saul spun the pointer on this spinner 10 times.
The theoretical probability of landing on the letter A is $\frac{5}{10}$, or $\frac{1}{2}$.
Here are Saul's results.

Letter	A	B	C	D
Number of Times	6	1	2	1



The **experimental probability** is the likelihood that something occurs based on the results of an experiment.

$$\text{Experimental probability} = \frac{\text{Number of times an outcome occurs}}{\text{Number of times the experiment is conducted}}$$

The experimental probability of landing on the letter A is $\frac{6}{10}$, or $\frac{3}{5}$.
This is different from the theoretical probability.

- Saul combined the results from 10 experiments.

Letter	A	B	C	D
Number of Times	51	19	8	22

The experimental probability of landing on the letter A is $\frac{51}{100}$.
The experimental probability is close to the theoretical probability.
The more trials we conduct, the closer the experimental probability may come to the theoretical probability.

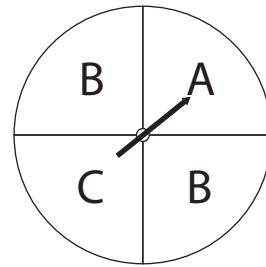
Try These

- Look at the table of Saul's individual results.
What is the experimental probability of landing on:
 - B? _____
 - C? _____
 - D? _____
 - B or C? _____
 - A or D? _____
- Look at the table of Saul's combined results.
What is the experimental probability of landing on:
 - B? _____
 - C? _____
 - D? _____
 - B or D? _____

Practice

1. Tatiana spins the pointer on this spinner several times.
Here are her results.

A	B	C



- a) How many times did Tatiana spin the pointer? _____
- b) What fraction of the spins were A? _____ B? _____ C? _____
2. A coin is tossed 100 times.
Heads showed 43 times and tails showed 57 times.
- a) What are the possible outcomes? _____
- b) What is the experimental probability of the tosses showing:
- i) heads? _____ ii) tails? _____
- c) What is the theoretical probability of the tosses showing:
- i) heads? _____ ii) tails? _____

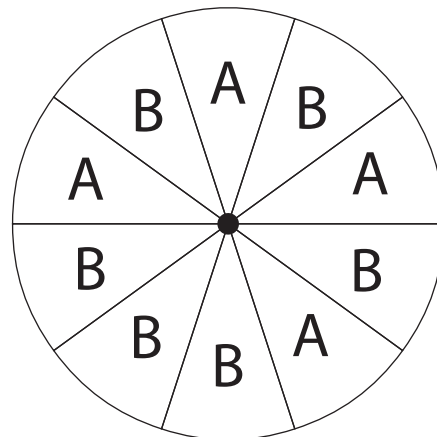
Stretch Your Thinking

- a) What is the theoretical probability of the pointer landing on:

i) A? _____ ii) B? _____

- b) Use an opened paper clip as a pointer.
Spin it 100 times. Record the results.

A	B



- c) What is the experimental probability of the pointer landing on:

i) A? _____ ii) B? _____