



Math Virtual Learning

Grade 7

Theoretical Probability

April 17, 2020



Grade 7/ Theoretical Probability
Lesson: April 17, 2020

Objective/Learning Target: Students will write theoretical probability as a ratio.

Let's Get Started:
Watch Video: [Theoretical Probability](#)

Theoretical probability is what we expect to happen, where experimental probability is what actually happens when we try it out.

Probability can be written or expressed in different ways.
Below are two ways to express an expected outcome:

Fraction

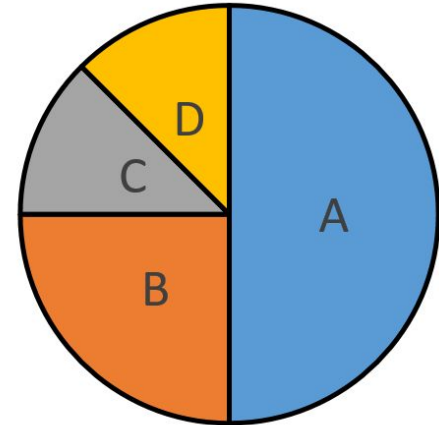


$$P(\text{event}) = \frac{\# \text{ of favorable outcomes}}{\text{total } \# \text{ of outcomes}}$$

Ratio



$$P(\text{event}) = \# \text{ of favorable outcomes} : \text{total } \# \text{ of outcomes}$$



Practice:

Write your answer as a fraction and a ratio.

When you spin the spinner, what is the probability the arrow will land on purple?

$$P(\text{purple}) = \frac{1}{8} \text{ or } 1:8 \text{ (1 out of 8 or 1 to 8)}$$

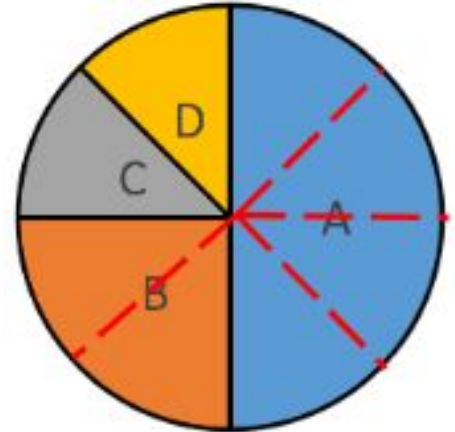
What is the probability it will land on B?

$$P(B) = \frac{2}{8} \text{ or } 2:8 \text{ which can simplify to } \frac{1}{4} \text{ or } 1:4$$

What is the probability it will land on green?

$$P(\text{green}) = \frac{0}{8} \text{ or } 0:8$$

Remember to divide the circle into equal sections!



Practice:

Go to this website:

Theoretical Probability

1. Type in the answer and click “submit”.
2. If you are not ready for this question and need some other practice, click the “Not feeling ready yet? These can help”.
3. Once you feel more comfortable, you can click the back arrow and it will take you back to the original activity.

ixl.com/math/grade-7/probability-of-simple-events

Seventh grade > DD.1 Probability of simple events ZZB

The Organic Cafe has 9 pastries for sale, including 3 apple fritters.
What is the probability that a randomly selected pastry will be an apple fritter?
Write your answer as a fraction or whole number.

P(apple fritter) =

Submit

Not feeling ready yet? These can help:

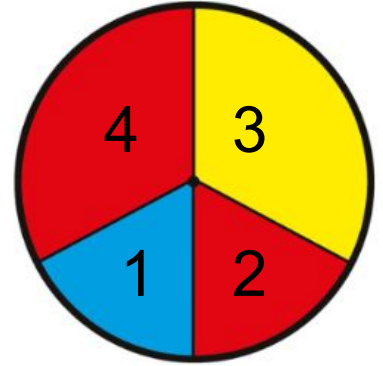
Find the probability

Convert between percents, fraction

Practice:

Answer the questions on a piece of paper.
Express your answer as a fraction and a ratio.

1. On the spinner, what is the probability the arrow will land on a red section?
2. What is the probability the arrow will land on a 3 or a 4?
3. What is the probability of landing on a green section?



4. What is the probability of the die landing on an odd number?

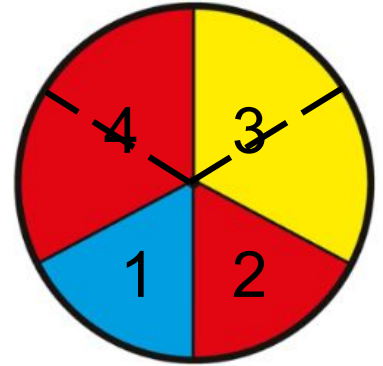


5. What is the probability of the die landing on a multiple of 3?

Answer Key:

Once you have completed the problems, check your answers here.

1. On the spinner, what is the probability the arrow will land on a red section? $P(\text{red}) = \frac{3}{6}$ or 3:6 which can simplify to $\frac{1}{2}$ or 1:2



2. What is the probability the arrow will land on a 3 or a 4?
 $P(3 \text{ or } 4) = \frac{4}{6}$ or 4:6 which can simplify to $\frac{2}{3}$ or 2:3
3. What is the probability of landing on a green section?
 $P(0) = \frac{0}{6}$ or 0:6



4. What is the probability of the die landing on an odd number?

$$P(\text{odd\#}) = \frac{3}{6} \text{ or } 3:6 \text{ which can simplify to } \frac{1}{2} \text{ or } 1:2$$

5. What is the probability of the die landing on a multiple of 3?

$$P(\text{multiple of } 3) = \frac{2}{6} \text{ or } 2:6 \text{ which can simplify to } \frac{1}{3} \text{ or } 1:3$$

Additional Practice:

Click on the links below to get additional practice and to check your understanding!

[That Quiz - Practice](#)

[Math Game - Practice](#)

[Theoretical Probability - Video](#)

[Sheppard Software - Practice](#) (likelihood)

[Sheppard Software - Practice](#) (matching)

[Open Middle - Marbles Challenge](#)

[Open Middle - Dice Challenge](#)