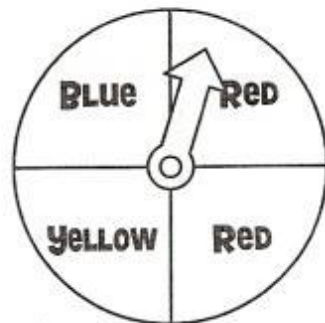


Probability

What is the probability that the spinner will land on yellow? on red?

Probability tells how likely it is that something will happen. It can be written as a fraction. To determine the probability of the spinner landing on a yellow space, do the following:



$$P(\text{yellow}) = \frac{\text{Number of Yellow Spaces}}{\text{Number of Spaces Possible}} = \frac{1}{4} \quad \frac{\text{Favorable Outcomes (chances)}}{\text{Possible Outcomes (possibilities)}}$$

The probability that the spinner will land on yellow is $\frac{1}{4}$.

$$\text{For red, } P(\text{red}) = \frac{\text{Number of Red Spaces}}{\text{Number of Spaces Possible}} = \frac{2}{4} = \frac{1}{2}.$$

The probability that the spinner will land on red is $\frac{1}{2}$.

A jar contains 18 marbles that are all the same size. It contains 7 purple, 3 green, and 8 orange marbles. Without looking, Travis picks 1 marble. What is the probability of each of the following outcomes?

1. $P(\text{green}) = \frac{3}{18} = \frac{1}{6}$

$P(\text{purple}) =$

$P(\text{orange}) =$

2. $P(\text{not green}) =$

$P(\text{purple or green}) =$

$P(\text{not orange}) =$

3. $P(\text{not purple}) =$

$P(\text{orange or green}) =$

$P(\text{purple, green, or orange}) =$

Of 16 socks in Jenn's drawer, 6 are brown, 4 are black, 2 are gray, and 4 are blue. Find the probability of each.

4. $P(\text{not brown}) = \frac{10}{16} = \frac{5}{8}$

$P(\text{gray}) =$

$P(\text{blue}) =$

5. $P(\text{blue or black}) =$

$P(\text{not black}) =$

$P(\text{blue, gray, or black}) =$

A 6-sided number cube numbered 1 through 6 is randomly tossed. Find the probability of tossing each outcome.

6. $P(5) =$

$P(1 \text{ or } 2) =$

$P(\text{odd number}) =$

7. $P(\text{not } 6) =$

$P(\text{even number}) =$

$P(1, 2, 3, \text{ or } 4) =$