

Probability and Odds
What's the Difference????

Probability is: _____

Although many people mistake *Probability* and *Odds* as meaning the same thing....

THEY ARE DIFFERENT!!

The *odds* of something happening is a ratio that compares favorable and unfavorable outcomes. (Notice, it doesn't use the "total")

The Odds in Favor of something happening:

The Odds against something happening:

Examples:

I have 5 slips of paper in a bag numbered 1-5. I draw out a slip of paper.

- What are the odds in favor of drawing a 5?
- What are the odds against drawing a 5?
- What are the odds in favor of drawing an even number?
- What are the odds against drawing an even number?

Practice:

✓ **You roll a standard die.**

- 1) What are the odds in favor of rolling a six?
- 2) What are the odds against rolling a six?
- 3) What is the probability of rolling a six?
- 4) What are the odds in favor of rolling an even number?
- 5) What are the odds against rolling a prime number?
- 6) What is the probability of rolling a 7?

✓ **The probability of you making a free throw is $\frac{9}{10}$.**

- 7) What are the odds in favor of making your free throw?
- 8) What are the odds against making your free throw?

✓ **You are an intermediate archer. The probability that you will hit the bulls eye is $\frac{4}{7}$.**

- 9) What are the odds in favor of your next arrow hitting the bulls eye?
- 10) What are the odds against hitting the bulls eye?

✓ **Consider a spinner that has twelve equal sections and numbered 1-12.**

- 11) What are the odds in favor of spinning a multiple of 3?
- 12) What are the odds against spinning a multiple of 3?
- 13) What is the probability of spinning a number less than 12?
- 14) What is the probability of spinning a factor of 12?