@@@ A Simple Overview of Probability & Odds @@@

Definition: **Probability** **is concerned with events of chance . (Click on Probability!)**
Probabilities are normally and usually represented as fractions e.g. 2/3 or 4/5

Scale of Probability: **Impossible Maybe Certain**

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                    Impossible              Maybe                 Certain
                    |-------------------------|-----------------------|
                    0          Low           1/2        High          1
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Sample Space (Universe of Event)
A listing or diagram of all possible outcomes from an experiment or occurrence.

Specific Event (Subset of Universe)
Simple (single event) or Non-Simple (multiple events) of chance.

Types of Probabilities for an Experiment (Event) of Chance or Uncertainity.
P = Probability * = Not P* = Not Probability

Probability Experiment: Draw a Marble from a box containing (9) marbles.	**Marbles: Blue Blue Blue Blue Red Red Red Green Green**

@@@ Probability of Success = (Success / Total)
Probability of Failure* = (Failure / Total)* @@@

P (R) = 3/9	**P (G) = 2/9**	**P (B) = 4/9**
P* (R) = 6/9	**P* (G) = 7/9**	**P* (B) = 5/9**
P (R) $\cup$ P*(R) = 1 P (R) $\cap$ P*(R) = 0		

The Sum of P and P* equals 1. **The intersection of P and P* equals 0.**

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@@@ A Simple Overview of Probability & Odds @@@

Definition: Odds represents a ratio of probabilities (P / P*). (Click on Odds!)

Odds are normally and usually represented as ratios e.g. 2:3 or 2 to 3

Summary of Odds: Marble Experiment Drawing marble from box (9) marbles.	**Marbles: Blue Blue Blue Blue Red Red Red Green Green**

Simple Example of the Odds for the above Experiment of Chance or Uncertainity. Odds equals ratio of Probabilities. Thus represent Odds then reduce as ratios.

Odds in favor of **Red** event: O_f (R) = 3/9 : 6/9 = 3 : 6 or 3 to 6

Odds against Red event: O_a (R) = 6/9 : 3/9 = 6 : 3 or 6 to 3

Odds in favor of **Blue** event: O_f (B) = 4/9 : 5/9 = 4 : 5 or 4 to 5

Odds against Blue event: O_a (B) = 5/9 : 4/9 = 5 : 4 or 5 to 4

Odds in favor of **Green** event: O_f (G) = 2/9 : 7/9 = 2 : 7 or 2 to 7

Odds against Green event: O_a (G) = 7/9 : 2/9 = 7 : 2 or 7 to 2

Using Probabilities to develop Odds (Red) show, it is more likely to not get a Red.

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Reference information on Prob & Odds: *Fundamentals of Mathematics by Edwin I. Stein*

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