

Tuesday, March 29, 2011
7:51 AM



Odds

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Odds

odds - the chance that an event will occur if all events are equally likely.

odds in favor: $\frac{\# \text{ of favorable outcomes}}{\# \text{ of unfavorable outcomes}}$ or $\frac{\text{successes}}{\text{failures}}$

Example: Odds in favor of rolling a 1 on a number cube - 1:5

odds against: $\frac{\# \text{ of unfavorable outcomes}}{\# \text{ of favorable outcomes}}$ or $\frac{\text{failures}}{\text{successes}}$

Example: Odds against rolling a 1 on a number cube - 5:1

Odds are always read as the ratio of one quantity to another.

Examples:

A) What are the odds of rolling a 1 or a 3 on a number cube?

$$2:4 \rightarrow 1:2$$

B) What are the odds of not rolling a 1 or a 3 on a number cube?

$$4:2 \rightarrow 2:1$$

C) What is the probability of rolling a 1 or a 3 on a number cube?

$$\frac{2}{6} = \frac{1}{3}$$

Your Turn:

1) If the probability of choosing a girl is $\frac{9}{16}$ what are the odds of choosing a girl?

$$9:7$$

2) If the probability of winning a game is 70%, what are the odds of losing the game?

$$\frac{70}{100} = \frac{7}{10}$$

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$$3:7$$

3) If the odds of winning a raffle are $3:97$, what is the probability of winning?

$$\frac{3}{100}$$