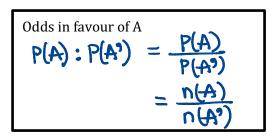
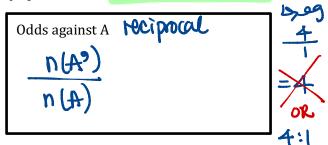
Learning Goal: Odds

Odds: A way to express a level of confidence about an outcome by the **ratio** of the probability that the event will occur to the probability that it will not occur. Odds is **always** presented in a form of a fraction or a ratio.





4 to 1

Relationships between Odds and Probability

If
$$h = outcomes = n(A)$$

k = complement of h

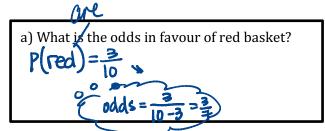
Probability:

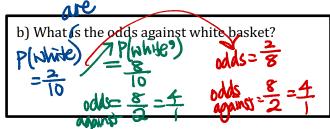
$$P(A) = \frac{h}{h+K}$$

Odds in Favour:

odds =
$$\frac{h}{K}$$

Example#1: Given total of 10 baskets: 3 are red 5 are black and 2 are white:





Example#2: Given the Odds in favour of passing the last unit test is 8:1, What is the probability of passing the last unit test?

$$P(passing) = \frac{8}{8+1}$$
$$= \frac{8}{9}$$

Example#3:

If the chance of snowing in April is estimated at 0.4, what are the odds against having snows next April?

$$P(snow) = \frac{4}{10}$$
 odds = $\frac{4}{5}$ odds against = $\frac{4}{5}$

Example#4:

The odds of Kevin passing data management are 2:7. What is the probability of Kevin passing data management?

A) Round your answer to 3 decimal places.

$$P(passing) = \frac{2}{9}$$

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B) Provide your answer in percent to 1 decimal place.

૱.2%:

