

Odds In favor and Odds against an Event.

As a result of an experiment if "a" of the outcomes are favorable to an event E and "b" of the outcomes are against it, then we say that odds are a to b in favor of E or odds are b to a against E.

Thus odds in favour of an event $E = \frac{\text{Number of favourable cases}}{\text{Number of unfavourable cases}} = \frac{a}{b} = \frac{a/(a+b)}{b/(a+b)} = \frac{P(E)}{P(\bar{E})}$.

Similarly, odds against an event $E = \frac{\text{Number of unfavourable cases}}{\text{Number of favourable cases}} = \frac{b}{a} = \frac{P(\bar{E})}{P(E)}$.

Important Tips

☞ If odds in favour of an event are a : b, then the probability of the occurrence of that event is $\frac{a}{a+b}$ and the probability of non-occurrence of that event is $\frac{b}{a+b}$.

☞ If odds against an event are a : b, then the probability of the occurrence of that event is $\frac{b}{a+b}$ and the probability of non-occurrence of that event is $\frac{a}{a+b}$.