

## Probability of a Complement

The sum of the probability of an event and the probability of its complement is 1.

$$P(\text{event}) + P(\text{not event}) = 1$$

$$P(\text{not event}) = 1 - P(\text{event})$$

A jar contains 10 red marbles, 8 green marbles, 5 blue marbles, and 6 white marbles.

A) What is the probability that a randomly selected marble is not green?

$$\begin{aligned} P(\text{not green}) &= 1 - P(\text{green}) \\ &= 1 - \frac{8}{29} \\ &= \frac{21}{29} \end{aligned}$$

B) What is the probability that a randomly selected marble is not red?

$$\begin{aligned} P(\text{not red}) &= 1 - P(\text{red}) \\ &= 1 - \frac{10}{29} \\ &= \frac{19}{29} \end{aligned}$$