

MathFLIX CHALLENGE

Probability: Complementary Events

Complementary events are two or more mutually exclusive events that together cover all possible outcomes. The sum of the probabilities of complementary events is 1.

Study the spinners below then complete the probability for the complementary events.

Picture	Event happens $p(a)$	Event does not happen $p(\text{not } a)$	Sum $p(a) + p(\text{not } a)$	Thinking Challenges
	$\frac{1}{4}$	$\frac{3}{4}$	$\frac{1}{4} + \frac{3}{4} = 1$	The probability that you will score a goal in the next soccer game is $\frac{1}{4}$. What is the probability that you will not score a goal?
				The probability of it raining tomorrow is $\frac{3}{4}$. The chance that it will not rain is $\frac{1}{4}$. Are these complementary events?
				The probability of it raining tomorrow is $\frac{1}{3}$. The probability that it will snow is $\frac{1}{8}$. Are these complementary events?
	$\frac{2}{5}$			The probability that Anna will win the race is $\frac{2}{5}$. The probability that Bill will win is $\frac{1}{5}$. Are these complementary events?
				The probability that Bill will win the race is $\frac{1}{5}$. What is the probability that he will not win the race?
				The probability that Anna will win the race is $\frac{3}{7}$. The probability that someone else will win is $\frac{4}{7}$. Are these complementary events?