Probability Dice: Practice With Probability Models

You can use a **probability model** to help you find probabilities. To create a probability model, start by finding the sample space, which includes all possible outcomes of the event. Then find the probability of each outcome. Try it for the questions below!

1. Jocelyn rolls a six-sided die.

a. Create a probability model for this event.

Probability model	Sample space:
	{1, 2, 3, 4, 5, 6}
	Probabilities:
	$P(1) = \frac{1}{6}$ $\quad$ $P(2) = \frac{1}{6}$ $\quad$ $P(3) = \frac{1}{6}$
	$P(4) = \frac{1}{6}$ $\quad$ $P(5) = \frac{1}{6}$ $\quad$ $P(6) = \frac{1}{6}$

b. Answer the questions below based on the probability model.

- What is the probability of rolling a 2? $\boxed{\frac{1}{6}}$
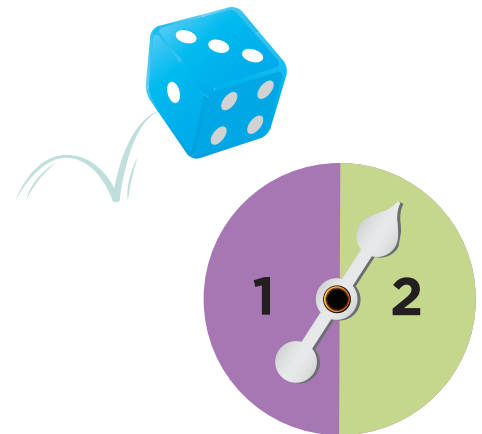- What is the probability of rolling a 5? $\boxed{\frac{1}{6}}$
- What is the probability of rolling a 6? $\boxed{\frac{1}{6}}$

2. Max rolls the same six-sided die and spins the spinner to the right. Then he adds the two numbers together.

a. Determine the sums in the sample space by filling in the missing values in this table.

Die

Spinner		1	2	3	4	5	6
	1	2	3	4	5	6	7
	2	3	4	5	6	7	8

b. Create a probability model for this event.

Probability model	Sample space:
	{2, 3, 4, 5, 6, 7, 8}
	Probabilities: $P(2) = \frac{1}{12}$ $\quad$ $P(3) = \frac{2}{12}$ or $\frac{1}{6}$
	$P(4) = \frac{2}{12}$ or $\frac{1}{6}$ $\quad$ $P(5) = \frac{2}{12}$ or $\frac{1}{6}$
	$P(6) = \frac{2}{12}$ or $\frac{1}{6}$ $\quad$ $P(7) = \frac{2}{12}$ or $\frac{1}{6}$ $\quad$ $P(8) = \frac{1}{12}$

c. Answer the questions below based on the probability model.

- What is the probability of a sum of 5? $\boxed{\frac{2}{12} \text{ or } \frac{1}{6}}$
- What is the probability of a sum of 8? $\boxed{\frac{1}{12}}$
- What is the probability of a sum of 9? $\boxed{0}$