



Math On the Spot

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# Calculating Experimental Probability

You can use *experimental probability* to estimate the probability of an event. The **experimental probability** of an event is found by comparing the number of times the event occurs to the total number of trials. When there is only one outcome for an event, it is called a **simple event**.

## Experimental Probability

$$\text{experimental probability} = \frac{\text{number of times the event occurs}}{\text{total number of trials}}$$



Animated Math

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### EXAMPLE 1



TEKS 7.6.I

Martin has a bag of marbles. He removed one marble, recorded the color and then placed it back in the bag. He repeated this process several times and recorded his results in the table. Find the probability of drawing each color. Write your answers in simplest form.

Color	Frequency
Red	12
Blue	10
Green	15
Yellow	13

- A** Number of trials = 50
- B** Complete the table of experimental probabilities. Write each answer as a fraction in simplest form.

Substitute the results recorded in the table.

Color	Experimental Probability
Red	$\frac{\text{frequency of the event}}{\text{total number of trials}} = \frac{12}{50} = \frac{6}{25}$
Blue	$\frac{\text{frequency of the event}}{\text{total number of trials}} = \frac{10}{50} = \frac{1}{5}$
Green	$\frac{\text{frequency of the event}}{\text{total number of trials}} = \frac{15}{50} = \frac{3}{10}$
Yellow	$\frac{\text{frequency of the event}}{\text{total number of trials}} = \frac{13}{50}$

### Reflect

- 6. What are two different ways you could find the experimental probability of the event that you do not draw a red marble?

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