

1. Tyler is the quarterback of the football team. This year he has completed 60% of his passes. If he attempts 50 passes in a game, how many passes can we predict that he will complete?

30 complete passes

Method 1

$$60\% \rightarrow \frac{60}{100} = \frac{30}{50}$$

$\xrightarrow{\div 2}$   
 $\xrightarrow{\div 2}$

Method 2

- ① Convert %  $\rightarrow$  decimal  $60\% \rightarrow 0.6$
- ② Multiply total by decimal  
 $50 \times 0.6 = 30$

2. Kayla owns an ice cream shop. She has kept track of the flavors that the last 20 people have ordered in the table below. If she has 2500 customers visit in a week, how many of them should she expect will order vanilla?

①  $P(v) = \frac{9}{20}$

Flavor	# of Orders
Vanilla	9
Chocolate	5
Cookie Dough	2
Other	4

Kayla can expect around 1125 people to order vanilla.

② Set up proportion

$$\frac{9}{20} = \frac{x}{2500}$$

③  $\frac{20}{20}x = \frac{22500}{20}$   
 $x = 1125$

3. Barbie has a bag of marbles. There are six different colors of marbles in the bag (red, blue, white, black, green, and purple). There is the same number of marbles for each color, so each color has an equally likely chance of occurring. If Barbie pulls out a marble 900 times and replaces the marble each time she pulls one out, how many of the times should she expect to get a purple marble?

①  $P(p) = \frac{1}{6}$

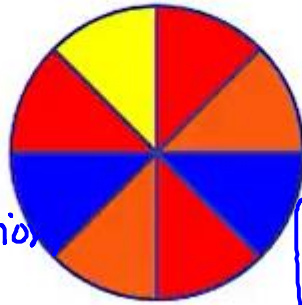
② Multiply the total number of draws by the probability

$$900 \times \frac{1}{6} = \frac{900}{6} = 150$$

Barbie should expect to draw a purple marble 150 times.

4. If Molly spins this spinner 480 times, how many times should she expect it to land on red?

①  $P(R) = \frac{3}{8}$



② Set up a proportion

$$\frac{3}{8} = \frac{x}{480}$$

$\times 60$   $3 \times 60 = 180$

The spinner should land on red 180 times.

5. While doing a study on rattlesnakes, Greg captured and tagged 40 rattlesnakes from one area. When he returned to capture more, 4 of the 30 snakes were already tagged. Make a prediction as to how many rattlesnakes are in this area.

①  $\frac{40}{?}$  tagged  
unknown total

$$\frac{4}{30}$$

② Set up proportion

$$\frac{4}{30} = \frac{40}{?}$$

$\times 10$   
 $30 \times 10 = 300$

Greg predicts that there are about 300 rattlesnakes living in this area.