Making Predictions

MAIN IDEA

• Predict the actions of a larger group using a sample.

BUILD YOUR VOCABULARY (pages 169–170)

A **survey** is a question or set of questions designed to collect data about a specific group of people.

The **population** is the [   ] being studied in a survey.

A **sample** is a randomly selected group that is surveyed to

represent a whole [   ].

EXAMPLES **Make Predictions Using Proportions**

Julia asked every sixth person in the school cafeteria to name the kind of activity he or she would like to do for the school's spring outing.

Spring Outing	
Activity	**Students**
amusement park	15
baseball game	10
water park	10
art museum	5

① **What is the probability that a student will prefer an amusement park?**

$$P(\text{amusement park}) = \frac{\text{number of students that}}{\text{prefer an amusement park}}$$
$$= \boxed{}$$

So, the probability that a student will prefer an amusement

park is [   ].

Use mental math to solve the proportion

$$\frac{1}{10} = \frac{x}{100}$$

(*Lesson 6–4*).

1 There are 408 students at Julia's school. Predict how many students prefer going to an amusement park.

Let a represent the number of students who prefer an amusement park.

$$\frac{\boxed{}}{\boxed{}} = \frac{a}{408} \qquad$$ Write a proportion.

$$\boxed{} = \frac{a}{408} \qquad$$ Simplify $\frac{15}{40}$ by dividing the numerator and denominator by the GCF, 5.

$\times 51$

$$\frac{3}{8} = \frac{a}{408} \qquad$$ Since $8 \times 51 = 408$, multiply 3 by 51 to find a.

$\times 51$

$$\frac{3}{8} = \boxed{} \qquad a = \boxed{}$$

Of the 408 students, about $\boxed{}$ will prefer going to an amusement park.

Check Your Progress HOCKEY Kyle asked every third hockey player in his league what type of snack they prefer to have after a hockey game.

Post Game Snack	
Snack	**Students**
fruit	12
chips	18
cookies	10

a. What is the probability that a hockey player will prefer cookies for their snack?

b. There are 128 hockey players in Kyle's league. Predict how many of the hockey players prefer cookies for their snack after a game.

HOMEWORK ASSIGNMENT

Page(s):

Exercises: