

Math 7 - Unit 6

Day 2 - Population & Sample

Lesson Objectives:

- I can examine a sample to gain information about a population.
- I can use data from samples to draw inferences about a population with an unknown characteristic of interest.

It's usually not possible to gather information about an entire population. A **sample** is small group that is used to predict information about the entire population.

Did you watch The Voice on Monday night?

Yes 12 No 20 Total 32

Yes 37.5 % No 62.5 %

Would our data be an accurate sample for...

- The entire class? Yes / No
- The entire 7th Grade? Yes / No
- The whole school? Yes / No
- Sandy City? Yes / No
- Utah? Yes / No
- USA? Yes / No
- The world? Yes / No

A survey found that 6 out of 10 students have a blog.

What percent of students in the sample survey have a blog?

$$\frac{6}{10} \cdot \frac{10}{10} = \frac{60}{100} = 60\%$$

Suppose there are about 250 students at the school. About how many have a blog?

$$\begin{aligned} a &= pw \\ a &= .60(250) \\ a &= 150 \text{ students} \end{aligned}$$

Don't forget that you can use percents as equivalent ratios or in the percent equation.

In statistics, **population** refers to the total set of observations that can be made.

For example, if we are studying the weight of adult women, the population is the set of weights of all the women in the world. If we are studying the grade point average (GPA) of students at Harvard, the population is the set of GPA's of all the students at Harvard.



The students in Mr. Blackwell's class brought photos from their spring break. The table shows how many students brought each type of photo.

| Spring Break Photos | |
|---------------------|----------|
| Location | Students |
| beach | 6 |
| campground | 4 |
| home | 7 |
| theme park | 11 |

What percent of students in class brought a photo taken at a theme park?

$$\frac{11}{28} = 39 = 39\%$$

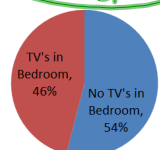
There are 560 students at the school where Mr. Blackwell teaches. Predict how many students in the school would bring in a photo taken at a theme park.

$$\begin{aligned} a &= pw \\ a &= .39(560) \\ a &= 218.4 \\ a &\approx 218 \text{ students} \end{aligned}$$

A survey found that 85% of people use emoticons on their instant messengers. Predict how many of the 2,450 students at Washington Middle School use emoticons.

$$.85(2450) = 2082.5 \approx 2083 \text{ students}$$

The circle graph shows the results of a survey in which children ages 8 to 12 were asked whether they have a television in their bedroom. Predict how many out of 1,725 students would NOT have a television in their room.



$$.54(1725) = 932 \text{ students}$$

Homework

Population & Sample WKS

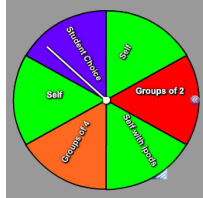
* Individual Think Time *



What to do if you get stuck...

1. Reread the problem. Did you write it down correctly?
2. Reread your notes. Is there a problem similar that we did together in class?
3. Find a problem similar in your book. Try this one to see if it helps.
4. Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...



Attachments

Deceptive2.ram