

HW: Worksheet

Warm up:

1) 46% of people surveyed said they like Western movies. If there are 1540 people in your town, how many would you expect to like Western movies?

$$0.46(1540)$$

~~$$\frac{46}{100} = \frac{x}{1540}$$~~

$$\frac{100x}{100} = \frac{70840}{100}$$

$$x = 708.4$$

708 people

2) A jacket is on sale for 20% off. If the original price of the jacket was \$430, what is the sale price?

20% ↓

80%

$$0.8(430)$$

\$344

COMMUNICATION The Student Council advisor asked every tenth student in the lunch line how they preferred to be contacted with school news. The results are shown in the table. If there are 680 students at the school, how many can be expected to prefer e-mail?

Method	Number
E-mail	16
Newsletter	12
Announcement	5
Telephone	3

$$\frac{16}{36} = \frac{x}{680}$$

$$\frac{36x}{36} = \frac{10880}{36}$$

$$x = 302.222\bar{2}$$

36
 302 students

TRAVEL A random survey of people at a mall shows that 22 prefer to take a family trip by car, 18 prefer to travel by plane, and 4 prefer to travel by bus. If 500 people are surveyed, how many should say they prefer to travel by plane?

$$\begin{array}{r} 22 \\ 18 \\ 4 \\ \hline 44 \end{array}$$

$$\frac{18}{44} \times \frac{x}{500}$$

205 people

$$\begin{array}{r} 44x = 9000 \\ \hline 44 \quad 44 \\ \hline x = 204.5454 \end{array}$$

A librarian is trying to determine what types of books to sell at the upcoming book fair. She conducted a random survey of students regarding their favorite genre and got the following results. What percent of the books she sells should be sports themed?

Mystery	Science Fiction	Romance	Sports	<u>total</u>
23	15	2	10	50

$$\frac{x}{100} \times \frac{10}{50}$$

$$\frac{50x = 1000}{50} \quad \frac{1000}{50} \quad \text{20\%}$$

$$x = 20$$

$$\frac{10}{50} = 0.2 \quad \text{20\%}$$

HW Solutions

Q9)

34%

858

$$\frac{34}{100} = \frac{x}{858}$$

$$0.34(858) = 291.72$$

292 students

STORES A store sells 4 main styles of pants: jeans, capris, cargos, and khakis. The people who work in the store survey 50 customers at random. The types of pants they prefer are indicated at the right. If 450 pairs of pants are to be ordered, how many should be jeans?

Type	Number
jeans	25
capris	10
cargos	8
khakis	7

50

$$\begin{array}{r}
 \frac{25}{50} \times \frac{x}{450} \\
 \frac{50x}{50} = \frac{11250}{50} \\
 x = 225
 \end{array}$$

225 pairs of jeans

MASCOTS The Student Council at a new junior high school surveyed 5 students from each of the 10 homerooms to determine what mascot students would prefer. The results of the survey are shown at the right. If there are 375 students at the school, predict how many students prefer a tiger as the school mascot.

Mascot	Number
Tornadoes	15
Tigers	28
Twins	7

50

$$\frac{28}{50} \times \frac{x}{375}$$

$$\frac{50x}{50} = \frac{10500}{50}$$

$$x = 210$$

210 students

LUNCH Jared randomly surveyed some students to determine their lunch habits. The results are shown in the table. If there are 268 students in the school, predict how many bring their lunch from home.

Lunch Habit	Number
Bring Lunch from Home	19
Buy Lunch in the Cafeteria	27
Other	4

$$\frac{19}{50} \times \frac{x}{268}$$

$$\frac{50x}{50} = \frac{5092}{50}$$

$$x = 101.84$$

102 students

50

What percentage of students would you expect to buy their lunch in the cafeteria?

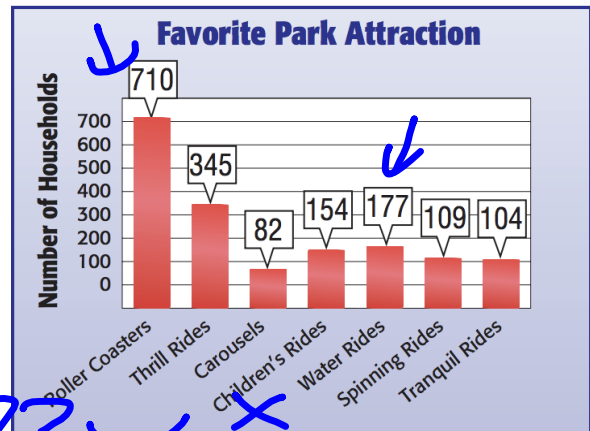
$$\frac{27}{50} = 0.54$$

$$\frac{x}{100} = \frac{27}{50}$$

54%

AMUSEMENT PARKS For Exercises 15 and 16, use the following information.

The manager of an amusement park mailed 2,000 survey forms to households near the park. The results of the survey are shown in the graph at the right.



15. Assume the survey is valid. If there are 5,000 park visitors, about how many would prefer water rides?

$$\frac{177}{2000} \times 5000$$

16. Based on the survey results, the manager concludes that about 36% of park visitors prefer roller coasters. Is this a valid conclusion? Explain.

$$\frac{710}{2000} = 0.355$$

$$35.5\% \approx 36\%$$

$$\frac{2000x}{2000} = \frac{885000}{2000}$$

$$x = 4425$$

443 visitors

