

Warm up:

1) A farmer can plow 30 acres in 4 hours. How long would it take them to plow 42 acres?

$$\cancel{\frac{30}{4} = \frac{42}{x}} \quad \frac{30x = 168}{\frac{30}{30} \quad \frac{168}{30}}$$

$$x = 5.6 \text{ h}$$

2) You surveyed 20 students in the school and found that 13 of them liked watching football. If there are 380 students in the school, how many would you expect to like watching football?

$$\cancel{\frac{13}{20} = \frac{x}{380}}$$

$$\frac{20x = 4940}{\frac{20}{20} \quad \frac{4940}{20}}$$

$$x = 247 \text{ students}$$

What is a percent?

$$12\% = \frac{12}{100}$$

What is 20% of 65?

$$\frac{20}{100} = \frac{x}{65}$$

$$\frac{100x}{100} = \frac{1300}{100}$$
$$x = 13$$

13

Percent Proportion

$$\frac{\%}{100} = \frac{\text{is}}{\text{of}}$$

What is 6% of 281?

$$\frac{6}{100} = \frac{x}{281}$$

$$\frac{100x}{100} = \frac{1686}{100}$$

$$x = 16.86$$

16.86

15% of what number is 12?

$$\frac{15}{100} = \frac{12}{x}$$

$$\begin{array}{r} 15x = 1200 \\ \hline 15 \quad 15 \\ \hline x = 80 \end{array}$$

80

18 is what percent of 50?

$$\frac{x}{100} = \frac{18}{50}$$

$$\frac{50x}{50} = \frac{1800}{50}$$

$$x = 36$$

36%

What is 140% of 96?

$$\frac{140}{100} = \frac{x}{96}$$

$$\frac{100x}{100} = \frac{13440}{100}$$

$$x = 134.4$$

This month's heating bill is 130% of last month's bill. What is this month's bill if last month's bill was \$46?

$$\frac{\%}{100} = \frac{\text{is}}{\text{of}}$$

~~$$\frac{130}{100} = \frac{x}{46}$$~~

$$\frac{100x = 5980}{100 \quad 100}$$

$$x = 59.8$$

\$59.80

About 35%, or 30 members, of an orchestra's musicians are violin players. Find the number of musicians in the entire orchestra.

$$\frac{35}{100} = \frac{30}{x}$$

86 musicians

$$\frac{35x = 3000}{35} \quad \frac{3000}{35}$$

$$x = 85.71428571\dots$$

- 1) What is 3% of 48?
- 2) 74 is 32% of what number?
- 3) What percent of 64 is 24?
- 4) About 80% of an airline's flights were on time one month. If 28,000 flights were on time, how many total flights did the airline have that month?
- 5) In an election for a seat for the U.S. Senate, the winning candidate received about 72.2% of the votes. If 214,082 votes were cast in total, how many votes did the winner receive?

1) What is 3% of 48?

$$\frac{3}{100} = \frac{x}{48}$$

$$\frac{100x}{100} = \frac{144}{100}$$

$$x = 1.44$$

2) 74 is 32% of what number?

$$\frac{32}{100} = \frac{74}{x}$$

$$\frac{32x}{32} = \frac{7400}{32}$$

$$x = 231.25$$

3) What percent of 64 is 24?

$$\frac{x}{100} = \frac{24}{64}$$

$$\begin{array}{r} 64x = 2400 \\ \hline 64 \quad 64 \\ \hline x = 37.5 \end{array}$$

$$37.5\%$$

4) About 80% of an airline's flights were on time one month. If 28,000 flights were on time, how many total flights did the airline have that month?

$$\frac{80}{100} = \frac{28000}{x}$$

$$\frac{80x}{80} = \frac{2800000}{80}$$
$$x = 35000$$

35000 flights

5) In an election for a seat for the U.S. Senate, the winning candidate received about 72.2% of the votes. If 214,082 votes were cast in total, how many votes did the winner receive?

