THE PERCENT PROPORTION: WORD PROBLEMS

1.) The movie theater has 250 seats. 225 seats were sold for the current showing. What percent of seats are empty?

$$\frac{25}{250} = \frac{x}{100}$$

$$25(100) = 250x$$
$$\frac{2500}{250} = \frac{250x}{250}$$
$$10 = x$$

10% of the seats

2.) A class of sixty voted for class president. 30% voted for Brad and 70% voted for Jane. How many votes did the winner get?

$$\frac{x}{60} = \frac{70}{100}$$

$$60(70) = 100x$$
$$\frac{4200}{100} = \frac{100x}{100}$$
$$42 = x$$

42 votes

3.) A survey of 1,000 people was done by New York Times. 80% of the people did not know the name of their representative in Congress. How many of the 1,000 people knew the name of the Congressman?

$$\frac{x}{1,000} = \frac{20}{100}$$

$$20(1,000) = 100x$$
$$\frac{20,000}{100} = \frac{100x}{100}$$
$$200 = x$$

200 people

4.) Bill is in a class of 15 boys and 35 girls. 40% of the students in the class take the bus to school. How many students do not take the bus to school?

$$\frac{x}{50} = \frac{60}{100}$$

$$60(50) = 100x$$
$$\frac{3000}{100} = \frac{100x}{100}$$
$$30 = x$$

30 students

5.) Miss Holman gave a 90-cent tip to a waitress for serving a meal costing $6.00. What percent of the bill was her tip?

$$\frac{.90}{6.00} = \frac{x}{100}$$

$$.90(100) = 6x$$

$$\frac{90}{6} = \frac{6x}{6}$$

$$15 = x$$

15% tip

6.) In the Central City Grand Prix, out of 30 cars that started the race, 12 of them finished. What percent of the cars finished the race? What percent did not finish the race?

$$12(100) = 30x$$

$$\frac{12}{30} = \frac{x}{100}$$

$$\frac{1200}{30} = \frac{30x}{30}$$

$$40 = x$$

40% finished

60% did not finish

7.) No-Freeze antifreeze mixture contains 30% alcohol. How much alcohol is there in 15 quarts of No-Freeze?

$$\frac{x}{15} = \frac{30}{100}$$

$$15(30) = 100x$$

$$\frac{450}{100} = \frac{100x}{100}$$

$$4.50 = x$$

4.5 quarts of alcohol

8.) Eric earned 60 points on his last test. If there were 75 possible points, what was his percent grade?

$$\frac{60}{75} = \frac{x}{100}$$

$$60(100) = 75x$$

$$\frac{6000}{75} = \frac{75x}{75}$$

$$80 = x$$

80% on test