Solving Percent Problems with a Proportion:

$$\frac{\%}{100} = \frac{\text{part}}{\text{total}}$$

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

Using a percent equation:

(percent as a decimal) x (total) = part

is

1. 5% of 48 is what?

$(.05)(48) = X$

$\frac{5}{100} = \frac{X}{48}$ $X = 2.4$

2. 120 is what percent of 105?

$\frac{X}{100} = \frac{120}{105}$ $X = 114.29\%$

3. 72 is 32% of what?

$(.32)(X) = 72$

$\frac{32}{100} = \frac{72}{X}$

225

Final Amt - Orig Amt

$$\text{Percent Change} = \frac{\text{Amount of Change}}{\text{Original Amount}} \times 100$$

4. The price of a gallon of gas last month was $3.20. This month the price is $3.62. Find the percent increase.

$\frac{.42}{3.20} \times 100$

13.13%

5. In 1990 the population of Detroit was 1,027,974. The population fell to 951,270 in 2000. Find the percent decrease.

$$-76,704$$
$$1,027,974$$

$$7.46\%$$