5.6 PERCENT PROBLEMS

ESSENTIAL QUESTION: How can you find the percent of a number?

FINDING THE PERCENT OF A NUMBER

If you think of taking a test, you are trying to find out how many problems you got right when you know how many questions are on the test and what your percentage is.

1. 60% of 150 is what number? 2. 20% of 60 is what number? 3. 25% of 45 is what number?

$$\frac{1}{3} \cdot \frac{1}{120} = \frac{1}{3}$$

$$\frac{1}{3} \cdot \frac{1}{120} = \frac{1}{3}$$

$$\frac{1}{100} \cdot \frac{1}{10} = \frac{1}{3}$$

TO FIND THE PERCENT OF A NUMBER

Write the percent as a $\frac{fraction}{fraction}$. Then $\frac{multiply}{fraction}$ by the whole. The percent times the whole equals the part.

FINDING THE WHOLE

If you think of taking a test, you are trying to find out how many problems are on the test when you know how many questions you got right and what your percentage is.

1. 60% of what number is 42?

2. 120% of what number is 72?

$$\frac{42}{100-20} = \frac{3}{5}$$

$$\frac{42}{100-20} = \frac{3}{5}$$

$$\frac{42}{100-20} = \frac{6}{5}$$

$$\frac{120-20}{100-20} = \frac{6}{5}$$

$$\frac{12}{100-20} = \frac{6}{5}$$

3. 62% of what number is 31?

4. 75% of what number is 48?

$$\frac{62^{\frac{1}{2}}}{100^{\frac{1}{2}}} = \frac{31}{50}$$

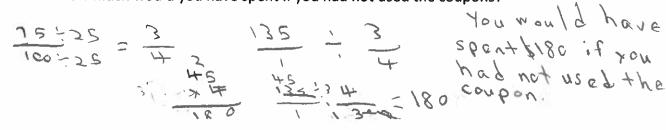
$$\frac{75^{\frac{1}{2}}}{100^{\frac{1}{2}}} = \frac{31}{50}$$

$$\frac{31}{50} = \frac{31}{50}$$

FINDING THE WHOLE

Write the percent as a $\frac{9 + 60 + 100}{100}$. Then $\frac{1000}{100}$ the part by the fraction. The part divided by the percent equals the whole.

Using coupons, you spend \$135 grocery shopping. This is 75% of the total retail price of the groceries. How much would you have spent if you had not used the coupons?



There are so students in a class. 14% of the students are absent today. How many students are absent?

14:2 7 100:2 = 50 1 50 = 7

1 students are absent