Name: Notes Algebra Section 3.7 Pages 176-181

Goal: "I will solve percent problems"

Percent as a Proportion:

 $\frac{is}{of} = \frac{\%}{100}$ $\frac{part}{whole} = \frac{\%}{100}$ and

Examples:

What number is 30% of 90? W $\frac{is}{of} = \frac{\%}{100} \qquad \frac{x}{90} = \frac{30}{100}$ is of 100x = 2700Solve: x = 27

Try These:

Ex: 20 is 12.5% of what number?

 $\frac{20}{x} = \frac{12.5}{100}$ *x* = 160

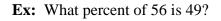
Ex: What percent of 55 is 11?

 $\frac{11}{55} = \frac{x}{100}$ *x* = 20%

Ex: What number is 140% of 50?

$$\frac{x}{50} = \frac{140}{100} \qquad \qquad \frac{x}{85} = \frac{12}{100}$$

$$x = 70$$
 $x = 10.2$



 $\frac{49}{56} = \frac{x}{100}$ *x* = 87.5%

Ex: What number is 45% of 92?

$$\frac{x}{92} = \frac{45}{100}$$
$$x = 41.4$$

Ex: What number is 12% of 85?

What percent	of 136 is 51?	
$r = \frac{\%}{100}$	$\frac{\frac{51}{136} = \frac{x}{100}}{5100 = 136x}$ $37.5 = x$	37.5%

original

Date:

and

change <u>%</u> 100

Word Problems:

Ex: A survey asked 220 students to name their favorite pasta dish. Find the percent of students who chose the given dish.

a)	Mac N' Cheese		
	$\frac{33}{220} =$	$=\frac{x}{100}$	<i>x</i> = 15%

b) Lasagna

$$\frac{40}{220} = \frac{x}{100}$$
 $x = 18\%$

Туре	# Students
Spaghetti	83
Lasagna	40
Mac N' Cheese	33
Fettuccine Alfredo	22
Baked Ziti	16
Pasta Primavera	15
Other	11

Ex: 30% of the school is wearing hats today. If 120 students are wearing hats, how many students are in the school?

30	120	400 students
100	x	400 students

Ex: There are 10,240 people sitting in preferred seating. This is 25% of the stadium's capacity. What is the stadium's capacity?

 $\frac{25}{100} = \frac{10240}{x}$ 40,960 seats

Ex: 68 of my students earned higher than a B on their report card. That is 80% of my students. How many students do I have?

$$\frac{80}{100} = \frac{68}{x}$$

80%

Percent Change:

To find percent of change: $\frac{change}{original} = \frac{\%}{100}$

To find the change: subtract

The original is what happened first

You must include <u>increase</u> or <u>decrease</u> in your final answer.

Ex: A shirt was put on sale. Its original price was \$35 and it was sold for \$30. What was the percent of the sale?

5	<i>x</i>	x = 14	14% decrease
35	100	$\lambda = 11$	1170 decredise

Ex: A store buys jeans for \$20 and sells them for \$35 each. Find the percent of the mark-up.

15	<u>x</u>	x = 75	75% increase
20	100	x = 75	7570 mercase

Ex: Find the percent of change if a school's enrollment was 675 students last year and is 725 students this year.

$$\frac{50}{675} = \frac{x}{100}$$
 $x = 7$ 7% increase

Ex: A house sold for \$250,000 in 2000. Last year it sold for \$360,000. What was the percent change?

 $\frac{11000}{250000} = \frac{x}{100}$ x = 4.4 4.4% increase