

ALGEBRA 1
2-9 PRACTICE WORKSHEET

Name KEY
Date _____

Solve for each percent, base or amount using a proportion and an equation.
NOTE: The answers from each method should be the same.

1. Write the generic version for each.

Percent Proportion

$$\frac{\text{amt}}{\text{base}} = \frac{\%}{100}$$

Percent Equation

$$(\%)(\text{base}) = \text{amt}$$

2. What is 40% of 120?

amt % base

Proportion

$$\frac{x}{120} = \frac{40}{100}$$

$$\frac{100x}{100} = \frac{4800}{100}$$

$$x = 48$$

Equation

$$(0.40)(120) = x$$

$$48 = x$$

3. 70% of what number is 63?

% base amt

Proportion

$$\frac{63}{x} = \frac{70}{100}$$

$$\frac{6300}{70} = \frac{70x}{70}$$

$$90 = x$$

Equation

$$\frac{(0.70)(x)}{0.70} = \frac{63}{0.70}$$

$$x = 90$$

4. What percent of 65 is 115?

% base amt

Proportion

$$\frac{115}{65} = \frac{x}{100}$$

$$\frac{11500}{65} = \frac{65x}{65}$$

$$176.9\% \approx x$$

Equation

$$(x)(65) = 115$$

$$\frac{65x}{65} = \frac{115}{65}$$

$$x \approx 1.769$$

$$x \approx 176.9\%$$

5. A pair of pants that regularly costs \$55 are on sale for 35% off the regular price. What is the sales price of the pants? Solve using an equation.

	<u>base</u>	<u>%</u>	
			<u>Price</u>
$\% = 0.35$		$(\%)(\text{base}) = \text{amt}$	$= \text{Reg} - \text{Discount}$
$\text{base} = 55$		$(0.35)(55) = X$	$= 55 - 19.25$
$\text{amt} = ?$		$\$19.25 = X$	$= \$35.75$
		<u>saving,</u>	

The pants are on sale for \$35.75.

6. An entrepreneur purchases items from a wholesale outlet and resells them on her own website. If she purchases an item for \$18 and marks up her merchandise 40%, what price will she sell the item for on her website? Solve using an equation.

	<u>base</u>	<u>%</u>	
			<u>Price</u>
$\% = 0.40$		$(\%)(\text{base}) = \text{amt}$	$= \text{Purchase } \$ + \text{Mark-Up}$
$\text{base} = 18$		$(0.40)(18) = X$	$= 18 + 7.20$
$\text{amt} = ?$		$\$7.20 = X$	$= \$25.20$
		<u>mark-up</u>	

She will sell them for \$25.20.

7. \$13,000 is deposited into a savings account that earns simple interest at a rate of 6.5% per year. How much interest will the money earn after 3 years? Use $I = prt$.

$I = ?$	$I = prt$	The account has earned \$2535 in interest.
$P = 13000$	$I = (13000)(0.065)(3)$	
$r = 0.065$	$I = 2535$	
$t = 3$		

8. A family deposited \$8,000 into an account six years ago. The account earned simple interest at an annual rate. So far the total interest earned is \$1200. What is the interest rate for the account? Use $I = prt$.

$I = 1200$	$I = prt$	The interest rate for the account is 2.5%.
$P = 8000$	$1200 = (8000)(r)(6)$	
$r = ?$	$\frac{1200}{48000} = \frac{48000r}{48000}$	
$t = 6$	$0.025 = r$	
	$2.5\% = r$	