3 - % increase, decrease, calculating whole

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Ma8
Ms. Clay

PERCENTS Name: _____ Blk: _____

- **Changing by percentage**

a. Dora is 95 cm tall but she is just a kid so she is still growing. One year later, Dora's height has increased by 35%. How tall is Dora now?

Method 1: Calculate the increase and add it to the original	Method 2: Calculate the new height as a percentage of the old height
35% of 95 = (0.35)(95) = 33.25 95 + 33.25 = 128.25cm	135% of 95 = (1.35)(95) = 128.25cm

b. It is Halloween at the Ghoul household. The Ghoul's started with 300 pieces of candy and by the end of the night, the quantity of candy has decreased by 80%. How much candy does the Ghoul household have left at the end of the night?

Method 1: Calculate the increase and subtract it from the original	Method 2: Calculate the new quantity as a percentage of the old quantity
80% of 300 = (0.8)(300) = 240 300 - 240 = 60	20% of 300 = (0.2)(300) = 60

- **Percent Increase/Decrease** $= \frac{change}{original} \times 100\%$

a. As a result of the new Pokemon DS game being released, Super Smash Brothers is on sale! Originally, Super Smash Brothers was $42. It's on sale now for $35. What is the percent decrease in the price of Super Smash Brothers?

Percent Decrease $= \frac{change}{original} \times 100\%$

$\%\downarrow = \frac{42-35}{42} \times 100\% = 16.\overline{6}\% =$ 17%↓

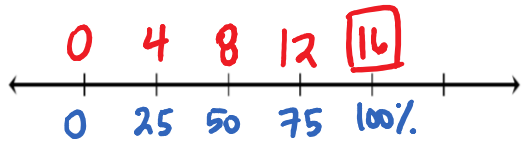
b. 15 years ago, gas used to cost \$0.50/L. Today, gas costs \$1.40/L. What is the percent increase in gas price over 15 years?

Percent Increase $= \frac{change}{original} \times 100\%$

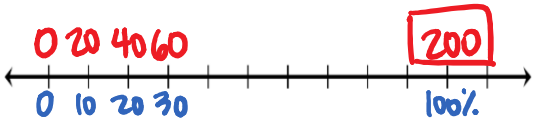
$\%\uparrow = \frac{1.4-0.5}{0.5} \times 100\% = \boxed{180\%\uparrow}$

- **Finding the whole number**

a. 75% of a number is 12. What is the number?

Method 1: Use a number line if the numbers work	Method 2: Calculate what 1% is and then multiply by 100
	$1\% = \frac{12}{75} = 0.16$ $100\% = \boxed{16}$

b. 30% of a number is 60. What is the number?

Method 1: Use a number line if the numbers work	Method 2: Calculate what 1% is and then multiply by 100
	$1\% = \frac{60}{30} = 2$ $100\% = \boxed{200}$

c. 4% of a number is 32. What is the number?

Method: Calculate what 1% is and then multiply by 100.

$1\% = \frac{32}{4} = 8$

$100\% = \boxed{800}$

d. 1.8 is 5% of a number. What is the number?

Method: Calculate what 1% is and then multiply by 100.

$1\% = \frac{1.8}{5} = 0.36$

$100\% = \boxed{36}$

e. 92 is 115% of a number. What is the number?

Method: Calculate what 1% is and then multiply by 100.

$1\% = \frac{92}{115} = 0.8$

$100\% = \boxed{80}$

Assignment: 1. Complete & hand in 'Percents' worksheet
2. p. 252 - 3, 7, 12, 15, 16, 18
* show equations! *