


**6 - 1**

# **Percents and Proportions**

percent:

percent →

whole →



**How to set it up:**

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

Ex: <sup>x</sup> What number is 60% of 45?

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

~~$$\frac{60}{100} = \frac{x}{45}$$~~

~~$$\frac{100x}{100} = \frac{2700}{100}$$~~

$$x = 27$$

Ex: <sup>x</sup> What percent of 65 is 13?

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

~~$$\frac{x}{100} = \frac{13}{65}$$~~

$$\frac{1300}{65} = \frac{65x}{65}$$

$$20\% = x$$

Ex: 20 is 25% of what number?

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

~~$$\frac{25}{100} = \frac{20}{x}$$~~

$$\frac{2000}{25} = \frac{25x}{25}$$

$$80 = x$$

**Ex: Rachel buys a camera for 20% of the original price. The original price of the camera is \$79. How much money does she save?**

What is 20% of 79?

$$\frac{20}{100} = \frac{x}{79}$$

$$100x = 1580$$

$$x = \$15.80$$

$$\begin{array}{r} \$79.00 \\ - 15.80 \\ \hline \boxed{\$63.20} \end{array}$$

**What did she pay for the camera?**

$$\$63.20$$

**Ex: Kelly purchases a new DVD player for \$215. The sales tax is \$11.83. What is the sales tax rate?**

11.83 is what percent of 215

$$\frac{x}{100} = \frac{11.83}{215}$$

$$\frac{\cancel{215}x}{\cancel{215}} = \frac{1183}{215}$$

$$x = 5.5\%$$





Homework:

6-1 WS (# 2 - 14 even)