

**2.7 Percents and Taxes**

Name:

Date:

Goal: I can find how much is paid in taxes  
 I can write an equation that relates two variables  
 I can graph a linear equation and determine appropriate bounds.

Vocab:

Gross Pay: How you make before taxes are taken out.

Tax Rate: What percent of your gross pay you pay in taxes

Net Pay: How much money you take home after taxes.

Find the tax rate for the following taxes paid.

1. Gross pay: \$250  
 Taxes paid: \$75

2. Gross pay: \$600  
 Taxes paid: \$144

3. Gross pay: \$120  
 Taxes paid: \$21.60

Percentage = Pay

$$\frac{X \text{ taxes}}{100} = \frac{75 \text{ taxes}}{250 \text{ gross}}$$

$$100 \cdot \frac{X}{100} = \frac{75}{250} \cdot 100$$

$$X = 30$$

Tax rate: 30%

$$\frac{144 \text{ tax}}{600 \text{ gross}} = \frac{X \text{ tax}}{100 \text{ gross}}$$

$$100 \cdot \frac{144}{600} = \frac{X}{100} \cdot 100$$

$$24 = X$$

$$\text{Tax rate} = 24\%$$

4. Most people pay 37% of their gross pay in federal, state and local taxes.

A) If you make \$1200 in gross pay, how much will you have to pay in taxes? Use a complete sentence in your answer.

$$\frac{\text{Percent}}{100 \text{ gross}} = \frac{\text{Taxes}}{1200 \text{ gross}}$$

$$\frac{37 \text{ tax}}{100 \text{ gross}} = \frac{X \text{ tax}}{1200 \text{ gross}}$$

$$1200 \cdot \frac{37}{100} = \frac{X}{1200} \cdot 1200$$

$$444 = X$$

You have to pay \$444 in taxes.

B) If you know you paid \$370 in taxes last year, what was your gross pay?

$$\frac{\text{Percent}}{100 \text{ gross}} = \frac{\text{Taxes}}{X \text{ gross pay}}$$

$$\frac{37 \text{ taxes}}{100 \text{ gross}} = \frac{370 \text{ taxes}}{X \text{ gross pay}}$$

$$\frac{37}{100} = \frac{370}{X}$$

$$X = 1000$$

your gross pay is \$1000.

C) If your gross pay last year was \$45,000, what was your net pay?

$$45000 \cdot \frac{37}{100} = \frac{X}{45000}$$

$$\$16650 = X \text{ taxes}$$

$$45000 - 16650 = 28350$$

your net pay is \$28,350.

5. Write an equation that describes the relationship between the amount you make in gross pay,  $g$ , and the amount you pay in taxes,  $t$ .

*31%*  
*Percent = taxes*  
 $g \cdot \frac{31}{100} = \frac{t}{g}$   ~~$g$~~

*save for t (get t by itself)*  
 $t = \frac{31g}{100}$  or  $t = \frac{31}{100}g$

6. Make a table and graph the relationship between the amount you make in gross pay,  $g$ , and the amount you pay in taxes,  $t$ .


Variable	Lower Bound	Upper Bound	Interval

