

Solving for an Indicated Variable Homework

Name Key Class Period _____

Another useful formula tells us how the sides of a triangle relate to the area. We use the formula $A = \frac{1}{2}b \cdot h$.

1. Pamela wants to plant a triangular garden in her backyard and has 45 square feet of soil to use. She wants the base of her garden to line up against the back of her shed which is 10ft long. What will be the **height** of her garden?

$$h = \frac{2A}{b}$$

$$h = 9 \text{ ft.}$$

2. Howard is laying triangular tiles in his bathroom the area of each tiles is 6 square inches and the height is 4 inches. What is the **length** of the base of each tile?

$$b = \frac{2A}{h}$$

$$b = 3 \text{ in.}$$

The formula for computing the balance of an account with compound interest added annually is $A = P(1+r)$ where A represents the amount of money in the account including interest, P is the amount in the account before interest and r is the interest rate written as a decimal

3. If Holly wants a total of \$1000 in the bank in a year and has an interest rate of 4% how much money should she put it the bank **initially**?

$$P = \frac{A}{1+r}$$

$$P = \$961.54$$

The formula for changing Celsius to Fahrenheit is $\frac{9}{5}C + 32 = F$ where C is degrees in Celsius and F is degrees in Fahrenheit.

4. James is only familiar with degrees Fahrenheit, but is curious about degrees Celsius. If James measures the temperature outside to be 76 degrees Fahrenheit, what would the equivalent temperature be in degrees **Celsius**?

$$C = \frac{5}{9}(F - 32)$$

$$C = 24.\bar{4}^{\circ}$$

$$\text{or } \frac{220}{9}^{\circ}$$

Rewrite each equation in terms of the indicated (Letter).

5. $\frac{P}{IR} = IRT$ (T)

$$T = \frac{P}{IR}$$

6. $\frac{P}{2} = \frac{2(L+W)}{2}$ (W)

$$\frac{P}{2} = L+W$$
$$\frac{P}{2} - L = L+W - L$$
$$W = \frac{P}{2} - L$$

7. $y = 5x - 6$ (x)

$$\frac{y+6}{5} = \frac{5x}{5}$$

$$x = \frac{y+6}{5}$$

8. $2x - 3y = 8$ (y)

$$\frac{-3y}{-3} = \frac{-2x+8}{-3}$$

$$y = \frac{-2x+8}{-3} \text{ or } y = \frac{2x-8}{3}$$

9. $\frac{x+y}{3} = 5 \cdot 3$ (x)

$$\frac{x+y}{3} = 15$$
$$\frac{x+y}{3} - \frac{y}{3} = 15 - \frac{y}{3}$$

$$x = 15 - y$$

10. $y = mx + b$ (b)

$$b = y - mx$$

11. $ax + by = c$ (y)

$$\frac{by}{b} = \frac{c-ax}{b}$$

$$y = \frac{c-ax}{b}$$

12. $A = 4\pi r^2$ (r^2)

$$r^2 = \frac{A}{4\pi}$$