1.4 Notes Part 2

Learning Target: Rewrite Literal Equations: Formulas

Literal Equation = Equation with 2 or more variables

$$2y + 4x = 6$$

$$V = \frac{1}{3}(Bh)$$

Reminder

Math isn't Magic

You MUST use algebraic properties of equality to "move" terms and coeficients from one side of an equation to the other.

Addition/Subtraction Property of Equality
Multiplication/Division Property of Equality

Solutions for Literal Equations

Solve for h

Review

$5\pi + 2h = 35\pi$

$8\pi h = 24$

$5\pi + 2h = 35\pi$

$-5\pi \quad -5\pi$

$2h = 30\pi$

$\frac{2h}{2} = \frac{30\pi}{2}$

$h = 15\pi$

$8\pi h = 24$

$\frac{8\pi h}{8\pi} = \frac{24}{8\pi}$

$h = \frac{3}{\pi}$

$$\frac{5\pi d}{5\pi} = \frac{30\pi}{5\pi}$$

$$\frac{5\pi d}{5\pi} = \frac{30}{5}^{6}$$

$$d = 6$$

$$\frac{\cancel{5}}{\cancel{5}}d = \frac{30\pi}{5}$$

$$d = 6\pi$$

$$\frac{30}{5} = 6$$

$$\frac{\pi}{6} = \frac{1}{6}\pi$$

Re-Writing Formulas

Temperature

$$K = C + 273.15$$

This converts temperatures from Celcius to Kelvin.

Solve for C

$$K = C + 273.15$$

$$-273.15 \quad -273.15$$

$$C = K - 273.15$$

Re-Writing Formulas

Solve the formula for the red variable.

(Think about what operation connects the red variable to the others)

$A = bh$

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

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

$I = Prt$

$\frac{I}{rt} = \frac{P \cdot r \cdot t}{rt}$

$P = \frac{I}{rt}$

Re-Writing Formulas

Area of a Triangle $\boxed{A = \frac{1}{2}bh}$ Solve for b

$$\frac{A}{h} = \frac{\frac{1}{2}(bh)}{h}$$

$$\frac{2}{1} \cdot \frac{A}{h} = \frac{2}{1} \cdot \frac{1}{2} b$$

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

Re-Writing Formulas

Solve for ℓ

$$S = \pi r^2 + \pi r \ell$$

Surface Area of a cone

10 5 2x

$S = \pi r^2 + \pi r \ell$

$-\pi r^2 \quad -\pi r^2$

$\frac{S - \pi r^2}{\pi r} = \frac{\pi r \ell}{\pi r}$

$\frac{S - \pi r^2}{\pi r} = \ell$

$10 = 5 + 2x$

$-5 \quad -5$

$\frac{5}{2} = \frac{2x}{2}$

$\frac{5}{2} = x$

$$\frac{S-\pi r^2}{\pi r} = l$$

$$\frac{S}{\pi r} - \frac{\pi r^2}{\pi r} = l \qquad l = \frac{S}{\pi r} - r$$

$$\frac{S}{\pi r} - \frac{\cancel{\pi} \cancel{r} r}{\cancel{\pi} \cancel{r}} = l$$

Re-Writing Formulas

Solve for h

$$B = 3\frac{V}{h}$$

$$h \cdot B = 3\frac{V}{h} \cdot h$$

$$\frac{h \cdot B}{B} = \frac{3V}{B}$$

$$h = \frac{3V}{B}$$

Homework

Pg. 30 and 31
#3, 5, 6, 8, 9, 13, 14-19

Reminder - Chapter 1 Test is on Wednesday

You can see me for extra help

- **Wednesday 7:30 AM**