

Warmup 8 / (The sum of the first 7 positive whole numbers) Created by Mr. Lischwe

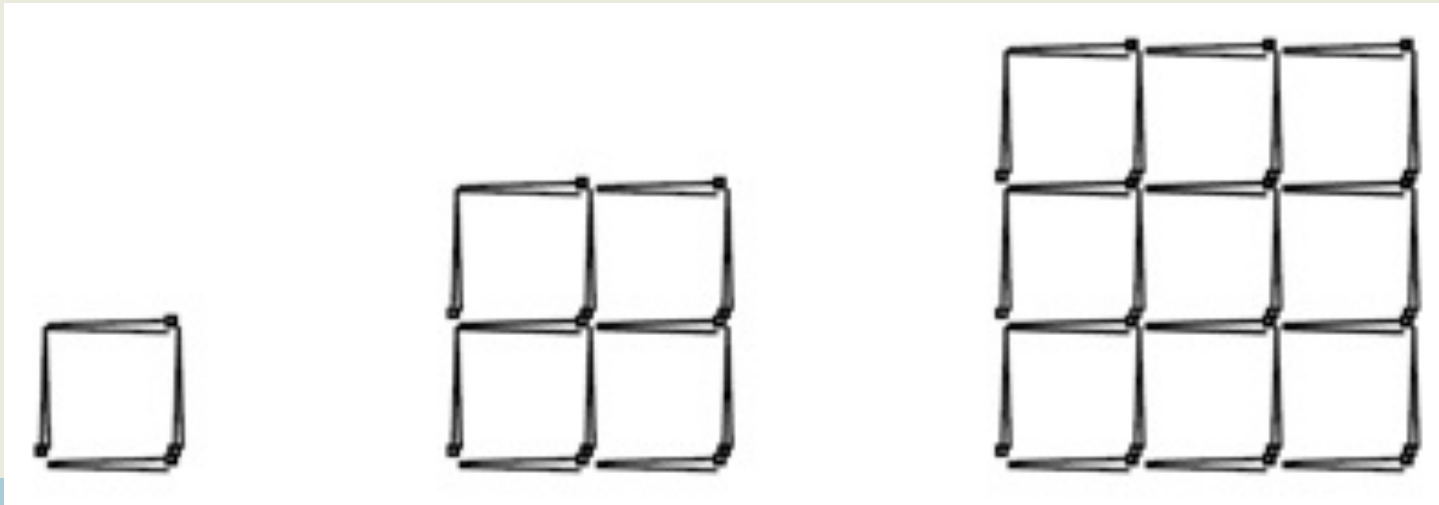


Tough Patterns Tuesday

1. Sketch step #5.
2. Complete the table.
3. Write an equation for the pattern.

$$n(n+1) \cdot 2$$

Step number (n)	1	2	3	4	5	10	15	25
Number of toothpicks (s)	4	12	24	40	60	220	480	1300



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Objective:

-Solve multi-variable equations for a given variable

Still in “Foundations” section

Introduction Worksheet





- If $x = y + 4$, what does y equal?

$$y = x - 4$$

- If $2a = b$, what does a equal?

- $a = b/2$

Solve for x (get x alone):



$$1. \quad \begin{array}{r} x - 7 = 3y \\ +7 \quad +7 \\ \hline \end{array}$$
$$\boxed{x = 3y + 7}$$

$$2. \quad \begin{array}{r} 10y = 5x + 25 \\ -25 \quad -25 \\ \hline \end{array}$$
$$\frac{10y - 25}{5} = \frac{5x}{5} \rightarrow \boxed{2y - 5 = x}$$

$$3. \quad \begin{array}{r} 2y = -8 + 3x \\ +8 \quad +8 \\ \hline \end{array}$$
$$\frac{2y + 8}{3} = \frac{3x}{3} \quad \boxed{\frac{2}{3}y + \frac{8}{3} = x}$$

Solve for y (get y alone):

1. $\frac{x}{3} - \frac{7}{3} = \frac{3y}{3}$

$$\frac{x}{3} - \frac{7}{3} = y$$

2. $\frac{10y}{10} = \frac{5x}{10} + \frac{25}{10}$

$$y = \frac{x}{2} + 2\frac{1}{2}$$

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

$$y = -4 + \frac{3}{2}x$$

IMPORTANT CONCEPT:



- If you solve an equation like $y = 2x + 5$ for x , you're not figuring out what **number** x equals. You're just figuring out **what x is in relation to y .**
- You don't get an actual number! You're just rearranging the equation.

Area of a Trapezoid

2. $A = \frac{1}{2}h(b_1 + b_2)$

$$\frac{2A}{h} = \frac{h(b_1 + b_2)}{h} \rightarrow \frac{2A}{h} = b_1 + b_2$$

Solve for b_1 .

Solve for b_2 .

Solve for h .



$\frac{2A}{h} - b_2 = b_1$

Homework



WORKSHEET