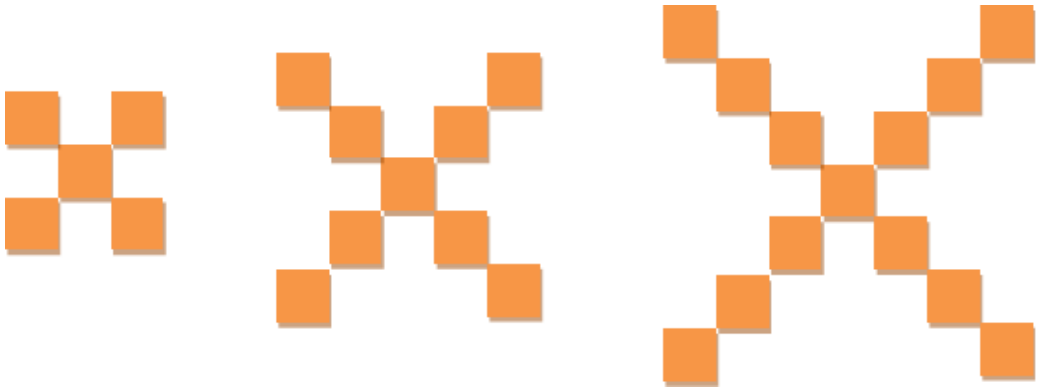
Created by Emery Hatcher

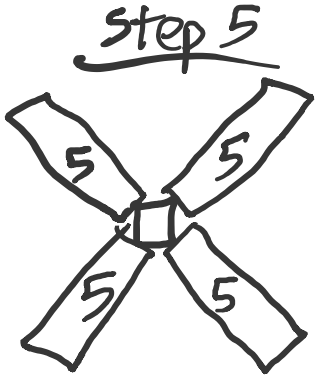
Warmup 8/ $\left(\sqrt{23}\right)^2$

GO BACK AND DO TOUGH PATTERNS TUESDAY!!! (Early finishers – try Friday)*

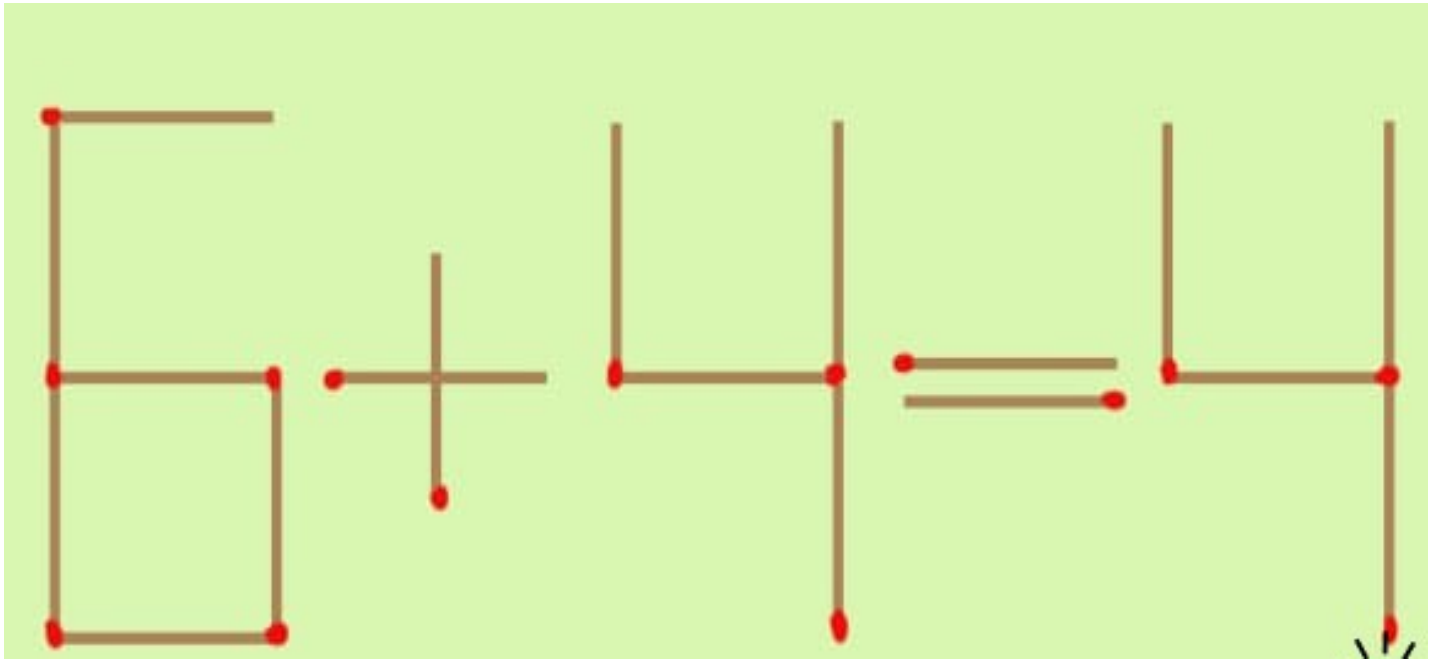
Tough Patterns Tuesday

1. Draw step #5.
2. Complete the table. #blocks = 4n+1
3. Write an equation for the pattern.





Step number (n)	1	2	3	4	5	10	15	25
Number of shaded squares (s)	5	9	13	17	21	41	61	101


6+4=4

Check Homework

Add to your table of contents…

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When two simple inequalities are combined into one statement by the words AND or OR, the result is called a **compound inequality**.

Task #6

Math as Another Language!

- **Translate these phrases into "math language." Graph the solution.**

1. All real numbers greater than 2 AND less than 6

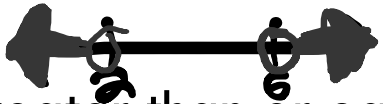
$x > 2$ AND $x < 6$ | $2 < x < 6$

2. All real numbers greater than or equal to 2 AND less than or equal to 6

$x \geq 2$ AND $x \leq 6$ | $2 \leq x \leq 6$

3. All real numbers less than 2 OR greater than 6

$x < 2$ OR $x > 6$



4. All real numbers less than or equal to 2 OR greater than or equal to 6

$x \leq 2$ OR $x \geq 6$

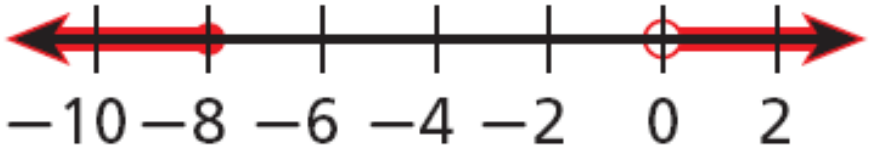
5. All numbers between 8 and 16

$x > 8$ AND $x < 16$ | $8 < x < 16$

6. All numbers between 8 and 16 inclusive

$x \geq 8$ AND $x \leq 16$ | $8 \leq x \leq 16$

Write the compound inequality shown by each graph.



$x \leq 8$ OR $x > 0$

$x \geq -2$ AND $x < 4$

$-2 \leq x < 4$

Solve the compound inequality and graph the solutions.

$$4 < x + 2 < 8$$

$-2 \quad -2 \quad -2$

$2 < x < 6$

Solve the compound inequality.

$$-5 \leq 2x + 3 < 9$$

$$-3 \quad -3 \quad -3$$

$$-8 \leq 2x < 6$$

$$\frac{-8}{2} \leq \frac{2x}{2} < \frac{6}{2}$$

$$-4 \leq x < 3$$

Solve the inequality and graph the solutions.

$\frac{2x}{2} \leq \frac{6}{2}$ **OR** $\frac{3x}{3} > \frac{12}{3}$

$x \leq 3$ OR $x > 4$

Solve the compound inequality and graph the solutions.

$2 + r < 12$ OR $r + 5 > 19$

$-2 \quad -2 \qquad -5 \quad -5$

$r < 10$ OR $r > 14$

Word Problem Time!

The target heart rate during exercise for a 15 year-old is between 154 and 174 beats per minute inclusive. Write a compound inequality to show the heart rates that are within the target range. Graph the solutions.

$154 \leq H \leq 174$

The pH level of a popular shampoo is between 6.0 and 6.5 inclusive. Write a compound inequality to show the pH levels of this shampoo. Graph the solutions.

$$6 \leq p \leq 6.5$$

- Ms. Bolus' classroom is ridiculous! It is either less than 60 degrees Fahrenheit or above 80 degrees Fahrenheit every day.

$T < 60$ OR $T > 80$

Homework

- p. 89 (11 – 23)