

WARMUP 11/ $((100 \times 9 - 60) \div 10 - 80) \times 2$

Today's warmup will be on a notecard. On your warmup page, just write "notecard." While you're waiting for the problems, see if you can calculate today's date problem in your head.

1. $10 = -4x + 22$

2. $\frac{3}{2}b + 12 = 30$

3. $\frac{x+2}{3} = 10$

**Make sure there is a
whiteboard, marker, &
eraser in your desk!**



1. $10 = -4x + 22$

2. $\frac{3}{2}b + 12 = 30$

3. $\frac{x+2}{3} = 10$



P.125 (1 – 10)

1) $a = 3$

2) $x = 5$

3) $c = -4$

4) $x = 8$

5) $w = -52$

6) $x = -2$

7) $n = 5$; 5 bracelets

8) $g = 15$; 15 bracelets

9) $a = 64$

10) $n = -35$

If you did not check your answers by plugging them back in, the highest you can get is a 70.



ACTIVITY: MULTIPLE VARIABLES

- Sometimes, the variable shows up more than once.
- They can be on the same side...
 - $4x + 2x + 3 = 13$
- ...or on different sides.
 - $4x + 3 = 2x + 13$

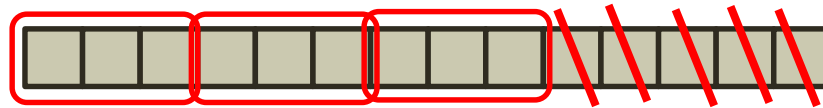


Showing with diagrams...

- $3x + 5 = 14$



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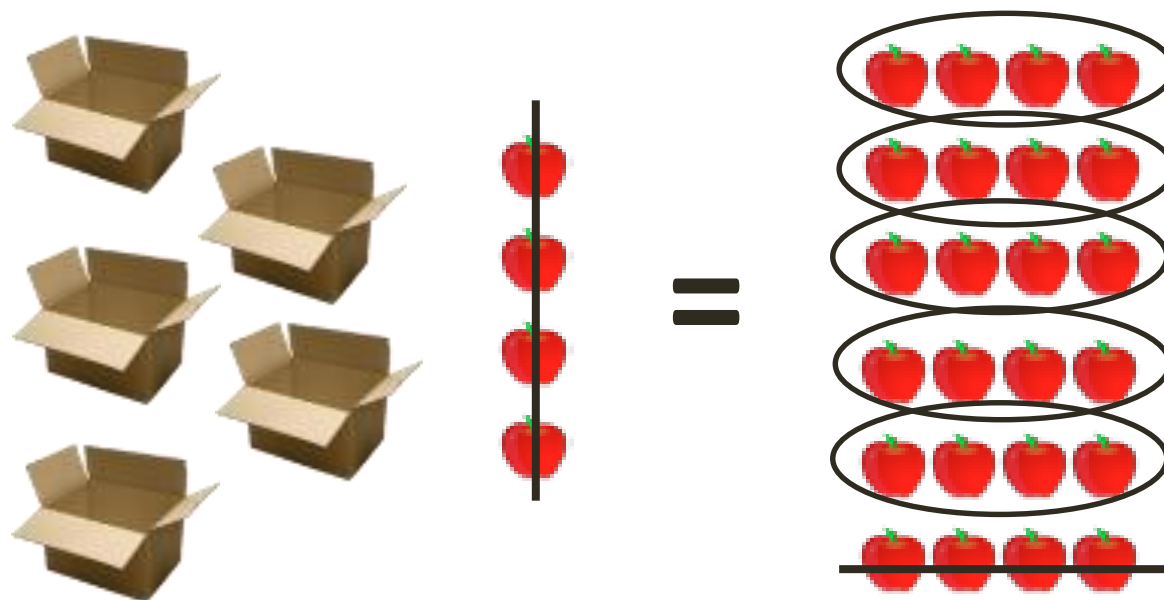


Draw a BAR diagram to represent this equation...

- $17 = 2x + 9$

Boxes and Apples...

$$5x + 4 = 24$$



EXPLORATION: BAR DIAGRAMS

- For each problem, you must draw a bar diagram. Each variable is a “bar” and each number is represented by squares. You need to figure out how many squares equals one “bar.”
- **YOU MUST SOLVE EACH PROBLEM BOTH WAYS:**
 - By circling/crossing things out in the picture
 - By showing the steps in the equation
- One person shows it in the picture, the other shows it in the equation, then switch.



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Equations w/ Variables on Both Sides

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Objective:

- Solve equations with variables on both sides
- Understand the difference with when they're on the same side and when they're not



BAR DIAGRAMS...

Draw a bar diagram for each equation.

$$3x = x + 8$$

$$3x + x = 8$$



FOR EACH EQUATION: (IN YOUR NOTES)

- **Draw a bar diagram**
- **Use the diagram to show how much x is**
- **Show the steps in the equation to solve it. Your steps should match the picture!**

$$4x = 2x + 12$$

$$4x + 2x = 12$$

