NEED TEXTBOOK!!!

Created by: 6th block seat A2

Warmup $11/(3 \cdot (1/2)^{-1} + 10 - 5 \cdot (1/2)^{-1})$ days until the person who sits at A2 in Mr. Lischwe's 6th block's birthday

1. Solve the equation: $1\frac{2}{5}x = 12\frac{3}{5}$

$\frac{5}{7} \cdot \frac{7}{5} = 1$

$x = \frac{63}{5} \cdot \frac{5}{7}$

$x = \frac{63}{7}$

$\boxed{x = 9}$

2. Solve the equation: $-3x - 45 = -35$

$+45 \qquad +45$

$\frac{-3x}{-3} = \frac{10}{-3}$

$\boxed{x = -\frac{10}{3} \text{ or } -3\frac{1}{3} \text{ or } -3.\overline{3}}$

3. Compare warmup answers with your table. Discuss and revise, if needed.

BACK TO YOUR 2-STEP EQUATIONS NOTES!

Solve the Equation:

$$\frac{1}{3}x + 3 = 9$$

Solve by multiplying first:

$$3 \cdot \frac{1}{3}x + 3 \cdot 3 = 9 \cdot 3$$

$$x + 9 = 27$$

$$-9 \qquad -9$$

$$\boxed{x = 18}$$

TO CHECK YOUR ANSWER:

- **Plug your solution back in and see if the equation is true!!!**

Examples

SOLVE. Check each answer.

1. $4x - 16 = 20$

$+16 \quad +16$

$\frac{4x}{4} = \frac{36}{4}$ $\quad$ **x = 9** $\quad \boxed{x = 9}$

2. $-15 - 2x = -37$

$+15 \quad +15$

$\frac{-2x}{-2} = \frac{-22}{-2}$ $\quad$ **x = 11** $\quad \boxed{x = 11}$

3. $1\frac{3}{4}x - 14 = 21$

$+14 \quad +14$

x = 20

$1\frac{3}{4}x = 35$

$\frac{4}{7} \cdot \frac{7}{4}x = \frac{5}{35} \cdot \frac{4}{7}$ $\rightarrow \boxed{x = 20}$

Check

① $4(9) - 16 = 20$

$36 - 16 = 20$

$20 = 20$ ✓

② $-15 - 2(11) = -37$

$-15 - 22 = -37$

$-37 = -37$ ✓

③ $\frac{7}{4}(20) - 14 = 21$

$35 - 14 = 21$

$21 = 21$ ✓

Can you DIVIDE first???

$$\frac{4x}{4} - 16 = \frac{20}{4}$$

$$x - 16 = 5$$

$$+16 \quad +16$$

$$x = 21$$

If you CHECK this answer, will it work???

NO

Can you DIVIDE first???

$$\frac{4x}{4} - \frac{16}{4} = \frac{20}{4}$$

$$x - 4 = 5$$

$$+4 \quad +4$$

$$x = 9$$

Check

IMPORTANT

- **When you MULTIPLY or DIVIDE both sides…**
- **You need to multiply or divide EVERY SINGLE TERM IN THE EQUATION.**
- **(This is why most people prefer to leave the multiplying or dividing step until the very end.)**

More examples

SOLVE. Check each answer.

4. $18 - 5x = 30$

$x = -\frac{12}{5}$ or $-2\frac{2}{5}$ or -2.4

$x = -\frac{12}{5}$ or -2.4

5. $\frac{x-10}{3} = 4$

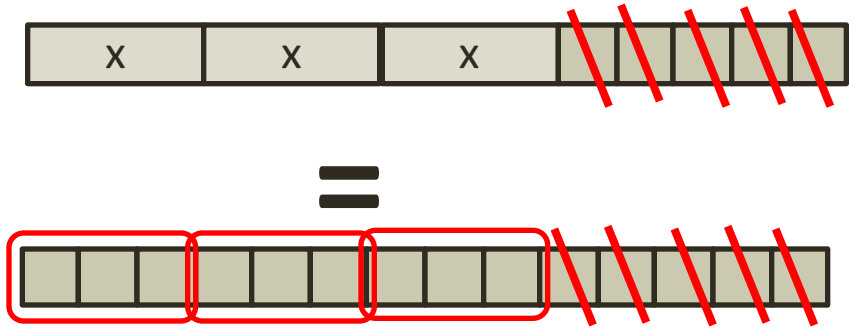
$x = 22$

6. $-19 = 4x - 19$

$x = 0$

Showing with diagrams…

- $3x + 5 = 14$

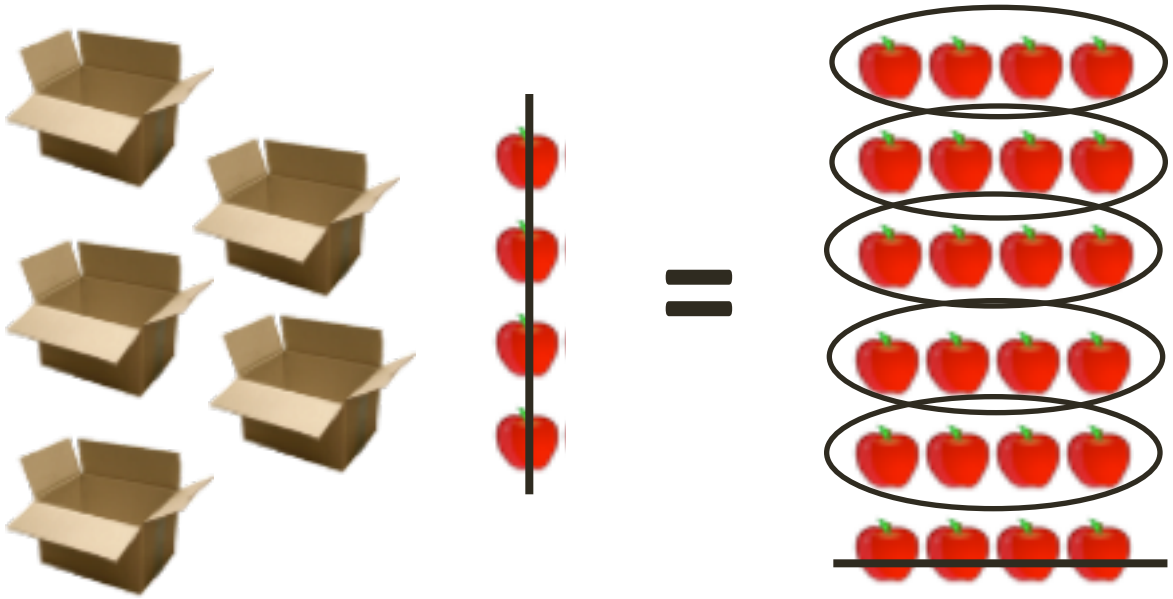


Draw a BAR diagram to represent this equation…

- $17 = 2x + 9$

Boxes and Apples…

$$5x + 4 = 24$$



HOMEWORK (Due Thursday)

- p.125 (1 – 10) + check each answer

- **YOU MUST CHECK YOUR ANSWERS!!! (That's what the instructions say!)**