

Warm up

Solve the equation.

1. $\frac{10x}{10} = \frac{100}{10}$

$x = 10$

3. ~~$\frac{z}{2} = -5$~~ $\cdot 2$

$z = -10$

2. $\frac{18}{-2} = \frac{-2a}{-2}$

$-9 = a$

4. $-\frac{1}{5}y = -6$

$y = -6 \cdot \frac{5}{-1}$

$y = 30$

Homework Questions?

On the top of your paper (by your name) rate yourself for this section:

4 - I can summarize the concepts and explain it to others

3 - I can apply the concept to answer questions correctly

2 - I can apply the concepts but with some mistakes

1 - I need help and know how to apply the concept

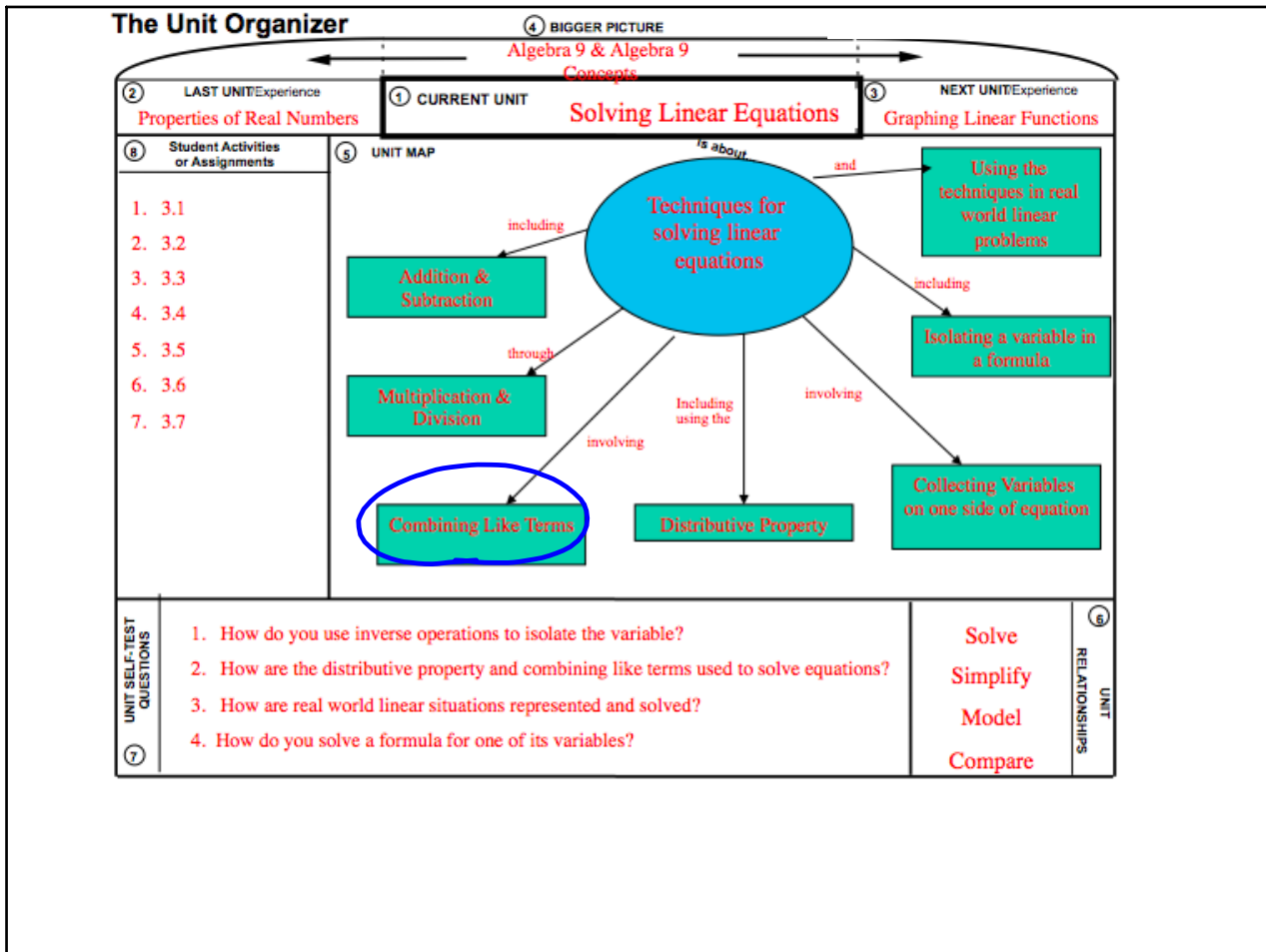
0 - I can't apply the concept, even with help

Rating of 0-2 is a warning signal to me that you need help

3.3 Solving Multi-Step Equations

Goals: • Use two or more steps to solve a linear equation

EQ: How do you decide which operation to undo first?



Example 1: Solve a Linear Equation

Solve $2x - 4 = -18$

$$\begin{array}{r}
 14 \quad +4 \\
 \hline
 2x = -14 \\
 \frac{\quad}{2} \quad \frac{\quad}{2}
 \end{array}$$

$x = -7$

* Get rid of # by itself first
+ -

Example 2: Combine Like Terms First

Solve $8x - 5x + 16 = -29$

$$\begin{array}{r}
 3x + 16 = -29 \\
 \underline{-16} \quad \underline{-16} \\
 3x = -45 \\
 \underline{\quad 3} \quad \underline{\quad 3} \\
 x = -15
 \end{array}$$

Try It Solve the equation. Check your solution in the original equation.

$$\begin{array}{r}
 1. \quad 2x - 5 = 9 \\
 \quad \quad \underline{+5} \quad \underline{+5} \\
 \quad \quad 2x \quad \underline{14} \\
 \quad \quad \underline{\quad 2} \quad \underline{\quad 2} \\
 \quad \quad x = 7
 \end{array}$$

$$\begin{array}{r}
 2. \quad 3 + 4a = 19 \\
 \quad \quad \underline{-3} \quad \underline{-3} \\
 \quad \quad -4a = 16 \\
 \quad \quad \underline{-4} \quad \underline{-4} \\
 \quad \quad a = -4
 \end{array}$$

$$\begin{array}{r}
 3. \quad 12m - 4m + 3 = -29 \\
 \quad \quad \underline{-3} \quad \underline{-3} \\
 \quad \quad 8m + 3 = -29 \\
 \quad \quad \quad \quad \underline{-3} \quad \underline{-3} \\
 \quad \quad \quad \quad 8m = -32 \\
 \quad \quad \quad \quad \underline{\quad 8} \quad \underline{\quad 8} \\
 \quad \quad \quad \quad m = -4
 \end{array}$$

$$\begin{array}{r}
 4. \quad 35 = 7y + 13y + 5 \\
 \quad \quad \underline{-5} \quad \underline{-5} \\
 \quad \quad 30 = 20y \\
 \quad \quad \underline{\quad 20} \quad \underline{\quad 20} \\
 \quad \quad 3 = 2y \\
 \quad \quad \underline{\quad 2} \quad \underline{\quad 2} \\
 \quad \quad 1.5 = y
 \end{array}$$

Summary

EQ: How do you decide which operation to undo first?

- ① Combine Like Terms (if possible)
- ② + or - the # w/out letter
- ③ ÷ by # in front x

3.3 Homework

Lesson 3-3 wkst #1-21