

LEARNING OBJECTIVE:

stay the same

We will use "if-then" moves to maintain equality while changing number sentences. (G7M2L16)

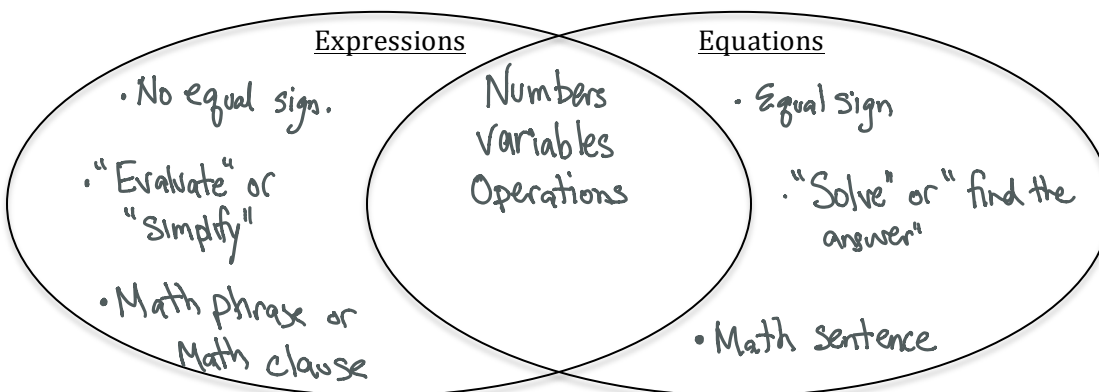
Equations

CONCEPT DEVELOPMENT:

If-then statements about operations:

<p>Addition Property of Equality If $a = b$, then $a + c = b + c$</p> <p><i>Examples:</i> If $6 + 2 = 8$, then $6 + 2 + 4 = 8 + 4$</p> <p>If $x - 2 = 7$, then $x - 2 + 2 = 7 + 2$</p> <p><i>Handwritten notes:</i> If $3x - 6 = 21$, ... then $3x - 6 + 2 = 21 + 2$... then $3x - 6 + b = 21 + b$</p>	<p>Subtraction Property of Equality If $a = b$, then $a - c = b - c$</p> <p><i>Examples:</i> If $2 + 3 = 5$, then $2 + 3 - 4 = 5 - 4$</p> <p>If $x + 3 = 18$, then $x + 3 - 3 = 18 - 3$</p>
<p>Multiplication Property of Equality If $a = b$, then $a \times c = b \times c$</p> <p><i>Examples:</i> If $3 + 2 = 5$, then $(3 + 2) \times 12 = 5 \times 12$</p> <p>If $\frac{2x}{3} = 6$, then $\frac{2x}{3} \times 3 = 6 \times 3$</p> <p><i>Handwritten notes:</i> $2 + 5 = 7$ $2(2 + 5) = 2 \cdot 7$</p>	<p>Division Property of Equality If $a = b$ (and $c \neq 0$), then $\frac{a}{c} = \frac{b}{c}$</p> <p><i>Examples:</i> If $6 = 3 + 3$, then $\frac{6}{2} = \frac{3 + 3}{2}$</p> <p>If $3x = 12$, then $\frac{3x}{3} = \frac{12}{3}$</p>

Expressions v. Equations



NAME: _____

Math 7.1

Mr. Rogove

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INDEPENDENT PRACTICE:

Steps for Writing Equations with If-Then Moves

1. Evaluate the numerical expression presented.
2. Follow if-then moves to create an equivalent equation.

<p>Evaluate the following expressions:</p> <p>Expression 1: $3 - (-5) + 32 \div -16$</p> <p>Expression 2: $12 \cdot \left(-\frac{1}{2}\right) \div (-3) + 4$</p> <p>Add -7 to each expression.</p> <p>Write an if-then statement to compare your expressions.</p>	<p>Evaluate the following expressions:</p> <p>Expression 1: $-4 \cdot (-2) - 5 + 13$</p> <p>Expression 2: $-24 \div (-6) - 4 \cdot (-3)$</p> <p>Multiply each expression by -3.</p> <p>Write an if-then statement to compare your expressions.</p>
<p>Evaluate the following expressions:</p> <p>Expression 1: $18 + (-24) + 16 \div 2$</p> <p>Expression 2: $2 \cdot (-7) + (-4) \cdot (-4)$</p> <p>Divide each expression by $-\frac{1}{3}$.</p> <p>Write an if-then statement to compare your expressions.</p>	<p>Evaluate the following expressions:</p> <p>Expression 1: $-9 + 12 - 8$</p> <p>Expression 2: $6 - 19 + 8$</p> <p>Subtract 5 from each expression.</p> <p>Write an if-then statement to compare your expressions.</p>

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ACTIVATING PRIOR KNOWLEDGE:

We know how to evaluate expressions using order of operations

$2 - (-3) \div 2 \cdot 6 + 4 \cdot (-4) - 2$	$-4 - 2 \cdot (-6) + 9 \div 3 \cdot 2$
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CLOSURE:

In the equation, $x + 5 = 16$, what 'if-then' move can we employ to isolate the variable?

$$\begin{array}{l} \text{If } x + 5 = 16 \\ \text{then } \underbrace{x + 5}_{x} - 5 = 16 - 5 \end{array}$$

TEACHER NOTES:

Homework should be problem set from Lesson 21 ENY Page s113. CHECK FOR TYPO ON QUESTION 4!!

Should also be able to do an activity-Maybe Ticket to Ride or Gotham City Taxis?

$$\downarrow \\ \{1 - (-12)\}$$

$$\{1 - ? = -1$$

