Welcome to Class!!

You will need:

~ Pencil

~ Highlighter

~ Ruler

~ Binder

~ Vocabulary Sheet

Homework:

Handout 1.1 Solving Equations

Stick Quiz 8/24/18

Perform the indicated operation.

1) $5 \cdot (-3)$

-15

2) $-3 \cdot (-4)$

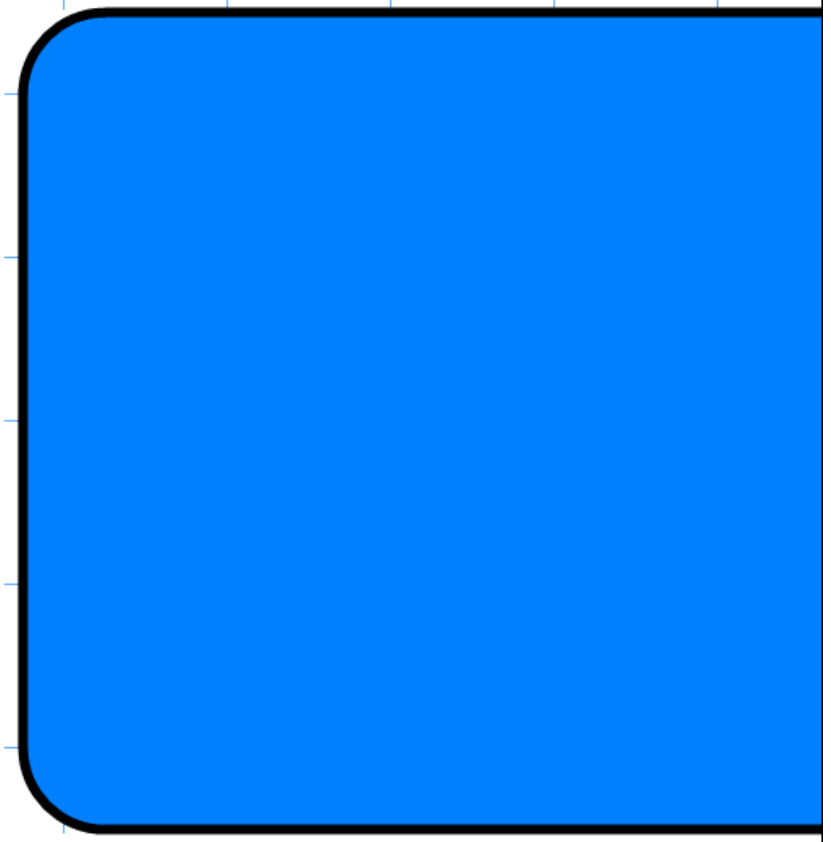
12

3) $-28 \div (-7)$

4

4) $-45 \div 9$

-5



Unit 1.1: Solving Equations

Vocabulary:

Unit 1 Supplement on Linear Equations:

Word	Definition
Equation	A math sentence stating that two math expressions are equal. $3x = 6$
Solution of the equation	A value we can put in place of a variable (such as x) that makes the equation true. $x = 2$
Inverse operation	The operation that reverses the effect of another operation. $\frac{3x}{3} = \frac{6}{3}$
Identity	An equation that is true no matter what values are chosen. $x = x$, $5 = 5$
Literal Equation	An equation that uses at least two different letters as variables.

Properties of Equality - *For any real numbers a, b and c*

Property	*Symbols*	*Examples*
Reflexive	$a = a$	$5 = 5$ or $4x = 4x$
Symmetric	If $a = b$, then $b = a$	If $x = 2$ then $2 = x$
Transitive	If $a = b$ and $b = c$, then $a = c$	If $x = 3$ and $3 = y$ then $x = y$
Substitution	If $a = b$, then then you can replace a with b and vice versa.	If $x = 4$ then $3x = 3(4)$
Addition & Subtraction	If $a = b$, then $a + c = b + c$ and $a - c = b - c$	
Multiplication	If $a = b$, then $a \cdot c = b \cdot c$	
Division	$c \neq 0$. If $a = b$, then $a \cdot c = b \cdot c$ and $\frac{a}{c} = \frac{b}{c}$.	if $x = 12$ then $\frac{x}{4} = \frac{12}{4}$

Put into notes after

Put on same page below today's Stick Quiz

Unit 1.1: Solving

Example

1) $x + 4 = -12$

$-4 \qquad -4$

Subtraction Prop.

$x = -16$

Step

Step | Property that says we co

2) $-8\left(-\frac{5}{8}x\right) = (20)(-8)$

$\frac{5x}{5} = \frac{-160}{5}$ Multiplication Prop.

$\boxed{x = -32}$ Division prop

$-\frac{8}{5}\left(-\frac{5}{8}x\right) = \left(\frac{20}{1}\right)\left(-\frac{8}{5}\right)$

$X = \frac{-160}{5}$

$\boxed{X = -32}$

Example - Solve Multi-

Step | Property that says we can

3) $5(x+3)+2(1-x)=14$

$5x+15+2-2x=14$

$3x+17=14$

$-17\quad -17$

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

$x=-1$

Example - Solve Multi-

4) $3(2x-1)-2(3x+4)=11$

$6x-3-6x-8=11$

$-11=11$

No solution

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Identity	
Literal Equation	

Example - Special Cases:

5) $3x + 4 = 6x + 5 - 3x$

$3x + 4 = 3x + 5$

$-3x \qquad -3x$

$4 = 5$

No Solution

Example - Special Cases:

6) $6x + 5 - 2x = 4 + 4x + 1$

$4x + 5 = 4x + 5$

$-4x \quad -4x$

$5 = 5$

Infinite solutions

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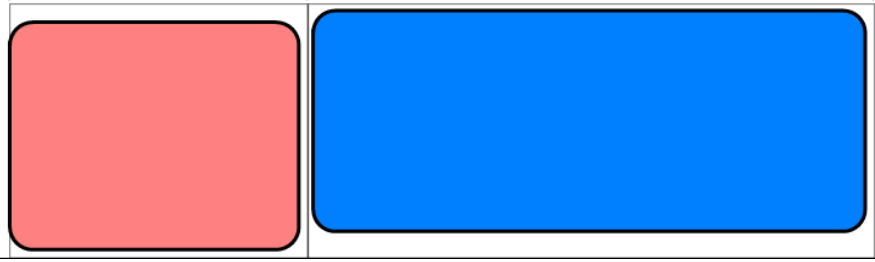

Example - Solve for a

Converting Celsius to Fahrenheit: $C = \frac{5}{9}(F - 32)$.

Solve for F.

① $\frac{9}{5}(C) = \frac{9}{5}\left(\frac{5}{9}(F - 32)\right)$, for F

$\frac{9}{5}C = F - 32$

$+32 \quad +32$

$$F = \frac{9}{5}C + 32$$

Example - Solve for a

Area of a trapezoid is $A = \frac{1}{2}h(b_1 + b_2)$.

Solve for b_2.

(8) $2(A) = 2\left(\frac{1}{2}h(b_1 + b_2)\right)$, for b_2

$2A = h(b_1 + b_2)$

Now what?

Work on:

- Handout 1.1 Solving Equations

Must be completed by:

- Monday 8/27

If you finish early:

Create and solve your own literal equations

I can:

1)Solve an equation with one variable

2)Solve literal equations