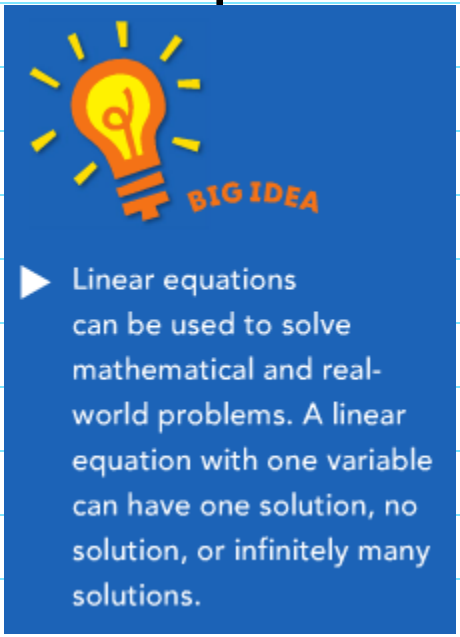
Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

Objective

TSW solve linear equations with one variable



- **Common Core State Standards** *8.EE.7 Solve linear equations with one variable*

8EE 7 Solve linear equations in one variable.
8EE 7a Give examples of linear equations in one variable with one solution, infinity many solutions, or no solutions
8EE 7b Solve linear equations with rational number coefficients

- **Mathematical Practices** *1 Solve problems/persevere 2 Reason 4 Model Mathematics 7 Look for and use structure*

Lesson 3.1 Solving Linear Equations with one Variable

Math Warm Up: We Do

Interpreting and Writing Algebraic Expressions:

Add two to any number

_____

Lesson 3.1 Solving Linear Equations with one Variable

We Do:

Interpreting and Writing Algebraic Expressions:

Add two to any number

$x + 2$

Lesson 3.1 Solving Linear Equations with one Variable

Math Warm Up

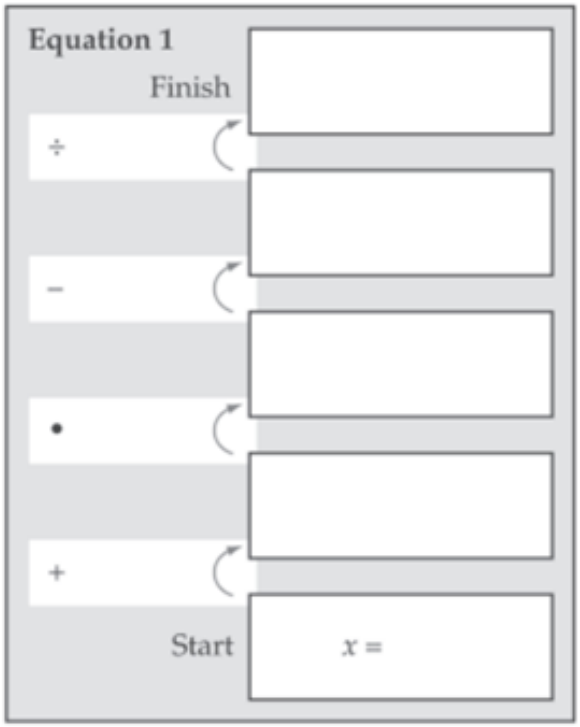
"Growing your own Equation"

$$\frac{b(x+a)-c}{d}=e$$

Equation

x=

Check:



Remember:

*we planted the answer to the equation

*we will now "grow" this equation from this answer

*Be sure to add, subtract, multiply, or divide on BOTH sides of the equation

2

4

6

5

Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

Math Warm Up

"Growing your own Equation"

$$\frac{b(x+a)-c}{d}=e$$

Finish	$\frac{6(x+5)-4}{2}=25$
÷ 2	
	$6(x+5)-4=50$
− 4	
	$6(x+5)=54$
• 6	
	$x+5=9$
+ 5	
Start	$x=4$

Equation $\frac{6(x+5)-4}{2}=25$

$x=4$

Check:

$$\frac{6(4+5)-4}{2}=$$

$$\frac{6(9)-4}{2}=$$

$$\frac{54-4}{2}=$$

$$\frac{50}{2}=25$$

Lesson 3.1 Solving Linear Equations with one Variable

We Do

$$\frac{b(x+a)-c}{d}=e$$

Equation

x=

Check:

Equation 1

Finish

÷

−

•

+

Start $x =$

Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

You Do:

Math Notebook

$$\frac{b(x+a)-c}{d}=e$$

Equation 1

Finish

÷

−

•

+

Start $x =$

Equation

x=

Check:

Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

Sage and Scribe:

For Equation 1 TELL your partner each step. Your partner will write what you say. Then, partner 2 will check your work

$$\frac{b(x+a)-c}{d}=e$$

Equation

x=

Check:

Equation 1

Finish

÷

−

•

+

Start $x =$

Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

We Do:

Math Notebook

$$\frac{ax - b}{c} + d = e$$

Equation 2

Finish

+

÷

−

•

Start $x =$

Equation

x=

Check:

Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

You Do:

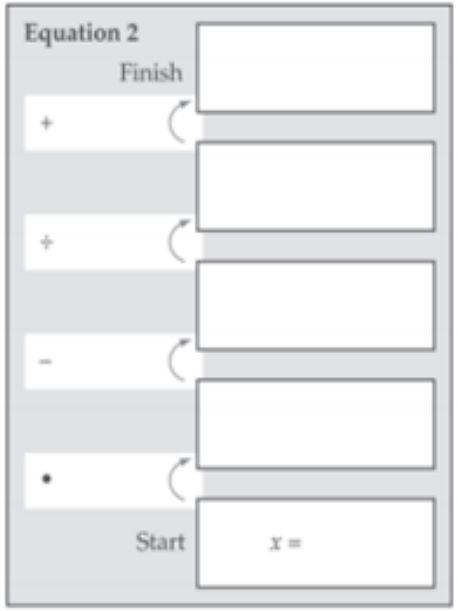
Math Notebook

$$\frac{ax - b}{c} + d = e$$

Equation

x=

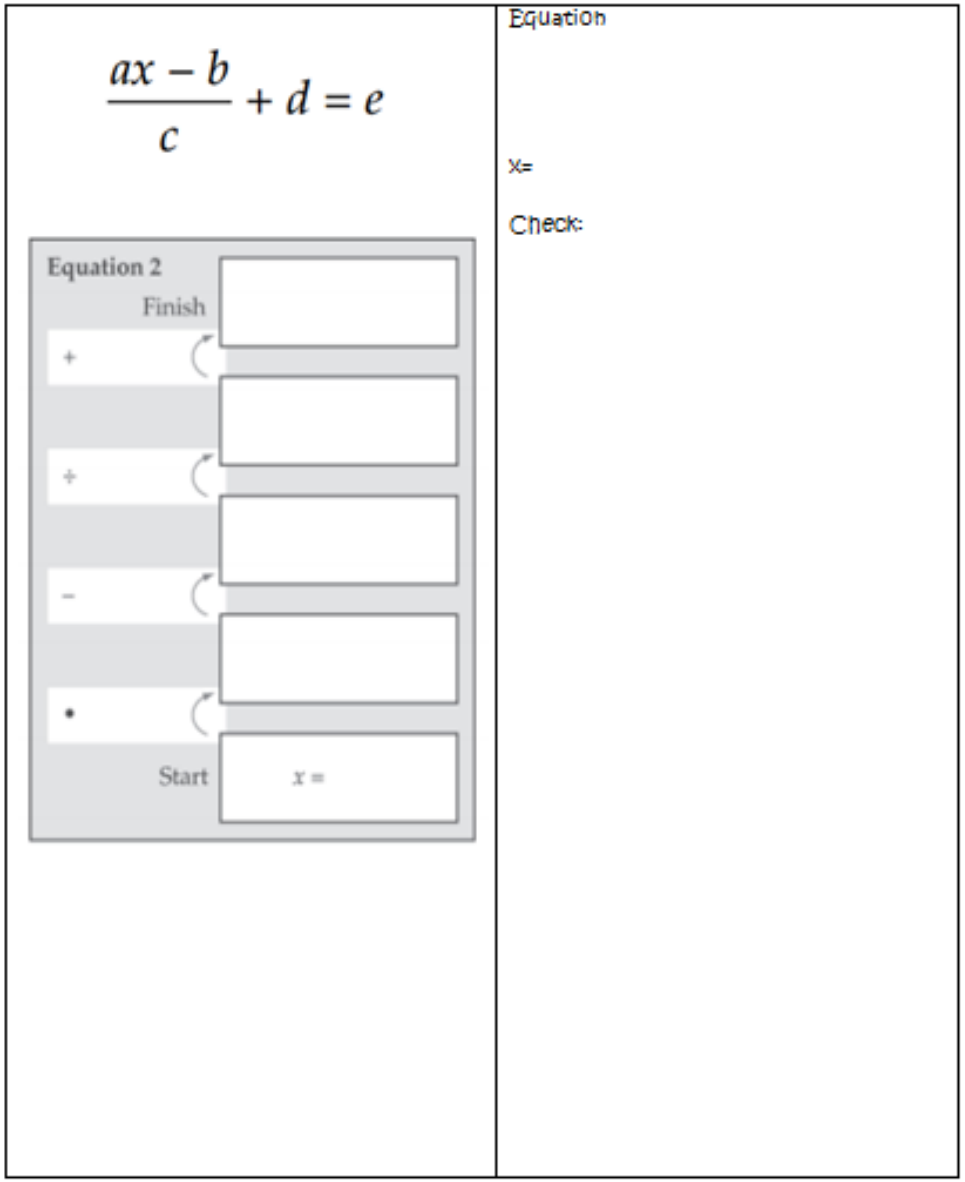
Check:



Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

Sage and Scribe:

Write in notebook SCRIBE and SAGE. Below write the steps your partner states WITHOUT the graphic organizer.



Lesson 3.1 Solving Linear Equations with one Variable (Day 1)

Independent Practice #Pre-Test

PRE-TEST

Name:_____

3 Algebraic Linear Equations

Solve each equation. Show your work.

1. $2x - 0.2(4 - x) = 2.8$
2. $3(x + 3) - \frac{2x + 1}{2} = 0.5$
3. $-\frac{x + 2}{3} - \frac{6 - 2x}{2} = \frac{1}{6}$
4. $3(x - 1) - 8 = 4(1 + x) + 5$
5. $\frac{4x - 2}{8} + \frac{3 + x}{4} = \frac{1}{2}$

Express each decimal as a fraction. Show your work.

6. $0.0\overline{6}$
7. $0.58\overline{3}$

Homework

Name:_____

Wednesday Homework– Solve Numerical Expressions

P	parentheses	
E	exponents	
M	multiplication	break the tie by going left to right
D	division	
A	addition	break the tie by going left to right
S	subtraction	

Challenge

$$\frac{(4^3 + 2) \div 3}{2^4 + 2 \bullet 3}$$

Evaluate each expression.

1) $(7 - 2) \div 5$

2) $(3 + 3)^2$

3) $(6 - 3)^2$

4) $5 + (16 + 2) \div 3$

5) $(-6 \times 2) \div -3$

6) $2 + 12 \div 2 + 1$

7) $-4 - (1 - 5) - (-4)^2$

8) $-3 \times 2 \times 2(-3 - 1)$

Lesson Check –Results from pre-test will determine area of growth and strength