

Learning Target: I will add and subtract integers between -10 and 10

 8th Grade - Readiness Standard 1 - 7.NS.1d

- Form A

1. We Do Together: Draw, say, write and think add to subtract.

Draw 6 negatives and cross out 2 negatives 	Draw 6 negatives and 2 positives to find the total
Say the <u>subtraction</u> problem and write the answer $(-6) - (-2) = \underline{-4}$	Say the " <u>add to subtract</u> " equation and write the total $(-6) + (+2) = \underline{-4}$
Draw 3 negatives, then draw 5 zero pairs to cross out 5 positives 	Draw 3 negatives and 5 negatives to find the total
Say the <u>subtraction</u> problem and write the answer $(-3) - (+5) = \underline{-8}$	Say the " <u>add to subtract</u> " equation and write the total $(-3) + (-5) = \underline{-8}$

2. Reflect: What questions do you have about adding and subtracting integers?

3. You Do Together: Draw, say, write and think add to subtract.

Draw 5 negatives, then draw 3 zero pairs to cross out 8 negatives 	Draw 5 negatives and 8 positives to find the total
Say the <u>subtraction</u> problem and write the answer $(-5) - (-8) = \underline{+3}$	Say the " <u>add to subtract</u> " equation and write the total $(-5) + (+8) = \underline{+3}$
Draw 2 negatives, then draw 4 zero pairs to cross out 4 positives 	Draw 2 negatives and 4 negatives to find the total
Say the <u>subtraction</u> problem and write the answer $(-2) - (+4) = \underline{-6}$	Say the " <u>add to subtract</u> " equation and write the total $(-2) + (-4) = \underline{-6}$



Name _____

Date _____

Learning Target: I will multiply and divide integers between -10 and 10 8th Grade - Readiness Standard 2 - 7.NS.2c
- Form A

1. We Do Together: Draw, say, write and think multiply to divide.

Represent both meanings of division

<p>Draw 3 groups of 4 negatives</p> <p>Group 1 — — — —</p> <p>Group 2 — — — —</p> <p>Group 3 — — — —</p> <p style="text-align: right;">Total = <u>-12</u></p>	<p>Draw to <u>divide</u> 12 negatives into 3 equal groups</p> <p>Group 1 — — — —</p> <p>Group 2 — — — —</p> <p>Group 3 — — — —</p> <p style="text-align: right;">3 groups of <u>-12</u></p>
<p>Say the <u>multiplication</u> problem and write the answer</p> <p style="text-align: center;">$3(-4) = \underline{-12}$</p>	<p>Say the "<u>multiply to divide</u>" equation and write answers</p> <p style="text-align: center;">$-12 \div 3 = \underline{-4}$ Think: $3(\underline{-4}) = -12$</p>
<p>Draw the opposite of 4 groups of 5 positives... which is equal to 4 groups of 5 <u>negatives</u></p> <p>Group 1 — — — —</p> <p>Group 2 — — — —</p> <p>Group 3 — — — —</p> <p>Group 4 — — — —</p> <p style="text-align: right;">Total = <u>-20</u></p>	<p>Draw to <u>divide</u> 20 negatives into equal groups of -5</p> <p>4 groups of -5 { — — — —</p> <p> — — — —</p> <p> — — — —</p> <p> — — — —</p> <p style="text-align: right;"><u>4</u> groups of -5</p>
<p>Say the <u>multiplication</u> problem and write the answer</p> <p style="text-align: center;">$-4(+5) = +4(-5) = \underline{-20}$</p>	<p>Say the "<u>multiply to divide</u>" equation and write answers</p> <p style="text-align: center;">$-20 \div -5 = \underline{4}$ Think: $\underline{4}(-5) = -20$</p>

2. Reflect: What questions do you have about multiplying and dividing integers?

3. You Do Together: Draw, say, write and think multiply to divide.

Represent both meanings of division

<p>Draw 2 groups of 5 negatives</p> <p>Group 1 — — — —</p> <p>Group 2 — — — —</p> <p style="text-align: right;">Total = <u>-10</u></p>	<p>Draw to <u>divide</u> 10 negatives into 2 equal groups</p> <p>Group 1 — — — —</p> <p>Group 2 — — — —</p> <p style="text-align: right;">2 groups of _____</p>
<p>Say the <u>multiplication</u> problem and write the answer</p> <p style="text-align: center;">$2(-5) = \underline{-10}$</p>	<p>Say the "<u>multiply to divide</u>" equation and write answers</p> <p style="text-align: center;">$-10 \div 2 = \underline{-5}$ Think: $2(\underline{-5}) = -10$</p>
<p>Draw the opposite of 4 groups of 3 negatives... which is equal to 4 groups of 3 <u>positives</u></p> <p>Group 1 + + +</p> <p>Group 2 + + +</p> <p>Group 3 + + +</p> <p>Group 4 + + +</p> <p style="text-align: right;">Total = <u>12</u></p>	<p>Draw to <u>divide</u> 12 negatives into equal groups of -3</p> <p>4 groups of -3 { — — —</p> <p> — — —</p> <p> — — —</p> <p> — — —</p> <p style="text-align: right;">_____ groups of -3</p>
<p>Say the <u>multiplication</u> problem and write the answer</p> <p style="text-align: center;">$-4(-3) = +4(+3) = \underline{12}$</p>	<p>Say the "<u>multiply to divide</u>" equation and write answers</p> <p style="text-align: center;">$-12 \div -3 = \underline{4}$ Think: $\underline{4}(-3) = -12$</p>

Learning Target: I will evaluate algebraic expressions

 7th Grade - Readiness Standard 4 - 6.EE.2c - Form A

1. We Do Together: Draw, tell and show.

<p>Draw each x as 4 plus signs to evaluate $3x + 2$ when $x = 4$.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 2px 5px; display: inline-block; margin-bottom: 5px;">+x</div> <div style="border: 1px solid black; padding: 2px 5px; display: inline-block; margin-bottom: 5px;">+x</div> <div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">+x</div> </div> <div style="margin-right: 20px;">+ +</div> <div style="margin-right: 20px;"> <div style="border-left: 3px double black; border-right: 3px double black; height: 100px; display: inline-block;"></div> </div> <div style="margin-right: 20px;"> + + + + + + + + + + + + </div> <div style="margin-right: 20px;">+ +</div> </div> <p style="text-align: center; margin-top: 5px;"><i>Is equal to</i></p>	<p>Show your thinking using numbers and symbols</p> $3x + 2 \text{ when } x = 4$ $3(\underline{4}) + 2$ $\underline{12} + 2$ $\underline{14}$
<p>Tell the value of the 3 x's</p> $x + x + x = 3x = 3(\underline{4}) = \underline{12}$	

2. Reflect: What questions do you have about evaluating algebraic expressions?

3. You Do Together: Draw, tell and show.

<p>Draw each x as 5 plus signs to evaluate $2x + 4$ when $x = 5$.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 2px 5px; display: inline-block; margin-bottom: 5px;">+x</div> <div style="border: 1px solid black; padding: 2px 5px; display: inline-block;">+x</div> </div> <div style="margin-right: 20px;">+ + +</div> <div style="margin-right: 20px;"> <div style="border-left: 3px double black; border-right: 3px double black; height: 100px; display: inline-block;"></div> </div> <div style="margin-right: 20px;"> + + + + + + + + + + </div> <div style="margin-right: 20px;">+ + +</div> </div> <p style="text-align: center; margin-top: 5px;"><i>Is equal to</i></p>	<p>Show your thinking using numbers and symbols</p> $2x + 3 \text{ when } x = 5$ $2(\underline{5}) + 3$ $\underline{10} + 3$ $\underline{13}$
<p>Tell the value of the 2 x's</p> $x + x = 2x = 2(\underline{5}) = \underline{10}$	
<p>Draw the x^2 as a 3 by 3 array of plus signs to evaluate $x^2 + 5$ when $x = 3$.</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 20px;"> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 5px;">+x²</div> </div> <div style="margin-right: 20px;">+ + + + +</div> <div style="margin-right: 20px;"> <div style="border-left: 3px double black; border-right: 3px double black; height: 100px; display: inline-block;"></div> </div> <div style="margin-right: 20px;"> + + + + + + + + + </div> <div style="margin-right: 20px;">+ + + + +</div> </div> <p style="text-align: center; margin-top: 5px;"><i>Is equal to</i></p>	<p>Show your thinking using numbers and symbols</p> $x^2 + 5 \text{ when } x = 3$ $(\underline{3})^2 + 5$ $\underline{3} \cdot \underline{3} + 5$ $\underline{9} + 5$ $\underline{14}$
<p>Tell the value of x^2</p> $x^2 = x \cdot x = \underline{3} \cdot \underline{3} = \underline{9}$	

Learning Target: I will simplify algebraic expressions

 7th Grade - Readiness Standard 5 - 6.EE.4 - Form A

1. We Do Together: Say, identify, draw, and write.

<p>Say what you see</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">+x</div> + + + + + <div style="border: 1px solid black; padding: 2px 5px; margin-left: 10px;">+x</div> <div style="border: 1px solid black; padding: 2px 5px; margin-left: 5px;">+x</div> <div style="border: 1px solid black; padding: 2px 5px; margin-left: 5px;">+x</div> </div>	<p>Draw the equivalent simplified algebraic expression</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + </div>
<p>Identify the like terms</p> $\underline{x} + 5 + \underline{3x}$	<p>Write the equivalent simplified algebraic expression</p> $4x + 5$

2. Reflect: What questions do you have about simplifying algebraic expressions?

3. You Do Together: Say, identify, draw, and write.

<p>Say what you see</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">+x²</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">+x</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px; border-radius: 50%;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px; border-radius: 50%;">+</div> </div>	<p>Draw the equivalent simplified algebraic expression</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x²</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">x</div> </div>
<p>Identify the like terms</p> $\underline{x^2} + \underline{4x} + \underline{5} + \underline{x} - \underline{2}$	<p>Write the equivalent simplified algebraic expression</p> $x^2 + 5x + 3$
<p>Say what you see</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> </div>	<p>Draw the equivalent simplified algebraic expression</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 10px;">x</div> + <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">+</div> </div>
<p>Identify the like terms</p> $3(x + 2) + 2x + 4$ <p style="text-align: center;">or</p> $\underline{3x} + \underline{6} + \underline{2x} + \underline{4}$	<p>Write the equivalent simplified algebraic expression</p> $5x + 10$

Learning Target: I will solve 1-step equations

 7th Grade - Readiness Standard 6 - 6.EE.7 - Form A

1. We Do Together: Say, draw, and show.

<p>Say what you see</p> <p style="text-align: center;">Is equal to</p>	<p>Show your thinking using numbers and symbols</p> $ \begin{array}{r} x + 3 = 12 \\ - 3 \quad - 3 \\ \hline x = 9 \end{array} $
Draw <u>two</u> ways to find the value of x . (Algebra Tiles and Tape Diagrams)	

2. Reflect: What questions do you have about solving 1-step equations?

3. You Do Together: Say, draw, and show.

<p>Say what you see</p> <p style="text-align: center;">Is equal to</p>	<p>Show your thinking using numbers and symbols</p> $ \begin{array}{l} \frac{10}{5} = \frac{5x}{5} \\ 2 = x \end{array} $
Draw <u>two</u> ways to find the value of x . (Algebra Tiles and Tape Diagrams)	

<p>Say what you see</p>	<p>Show your thinking using numbers and symbols</p> $ \frac{5}{2} \cdot 8 = \frac{2}{5}x $
Draw to find the value of x . (Tape Diagrams)	

<p>Say what you see</p>	<p>Show your thinking using numbers and symbols</p> $ \begin{array}{l} 3x = \frac{1}{2} \\ \frac{3}{3} \cdot \frac{1}{3} = \frac{1}{6} \\ x = \frac{1}{2} \cdot \frac{1}{3} = \frac{1}{6} \end{array} $
Draw to find the value of x . (Tape Diagrams)	

Learning Target: I will add and subtract algebraic expressions 8th Grade - Readiness Standard 3 - 7.EE.1a - Form A

 1. We Do Together: Say, combine, write and add the opposite to subtract. ($a - b = a + -b$)

<p>Say the expressions and combine the like terms</p> $(x + 3) + (4x + -1)$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\boxed{+x}$ + + + </div> <div style="text-align: center;"> $\boxed{+x}$ $\boxed{+x}$ $\boxed{+x}$ $\boxed{+x}$ </div> </div>	<p>Write as <u>add the opposite to subtract</u>, then draw</p> $(x + 3) - (4x + -1)$ $(x + 3) + \boxed{-4x + 1}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> \boxed{x} + + + </div> <div style="text-align: center;"> $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ </div> </div>
<p>Write the equivalent simplified algebraic expression</p> $5x + 2$	<p>Write the equivalent simplified algebraic expression</p> $-3x + 4$

2. Reflect: What questions do you have about adding and subtracting algebraic expressions?

 3. You Do Together: Say, combine, write and add the opposite to subtract. ($a - b = a + -b$)

<p>Say the expressions and combine the like terms</p> $(3x + -5) + x + (2x + 3)$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\boxed{+x}$ $\boxed{+x}$ $\boxed{+x}$ - - </div> <div style="text-align: center;"> $\boxed{+x}$ </div> <div style="text-align: center;"> $\boxed{+x}$ $\boxed{+x}$ * * * </div> </div>	<p>Write as <u>add the opposite to subtract</u>, then draw</p> $(3x + -5) - x - (2x + -3)$ $(3x + 5) + \boxed{-x} + \boxed{-2x + 3}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> \boxed{x} \boxed{x} \boxed{x} - - </div> <div style="text-align: center;"> $\boxed{-x}$ - - - </div> <div style="text-align: center;"> $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ * * * </div> </div>
<p>Write the equivalent simplified algebraic expression</p> $6x + -2$	<p>Write the equivalent simplified algebraic expression</p> $0x + -2 = -2$
<p>Say the expressions and combine the like terms</p> $(x + 1) + (-4x + 2) + 2x$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> $\boxed{+x}$ + </div> <div style="text-align: center;"> $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ + </div> <div style="text-align: center;"> $\boxed{+x}$ $\boxed{+x}$ </div> </div>	<p>Write as <u>add the opposite to subtract</u>, then draw</p> $(x + 1) - (-4x + 2) - 2x$ $(x + 1) + \boxed{4x + -2} + \boxed{-2x}$ <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> \boxed{x} + </div> <div style="text-align: center;"> $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ $\boxed{-x}$ - </div> <div style="text-align: center;"> $\boxed{-x}$ $\boxed{-x}$ </div> </div>
<p>Write the equivalent simplified algebraic expression</p> $-x + 3$	<p>Write the equivalent simplified algebraic expression</p> $3x + -1$

Learning Target: I will expand algebraic expressions

 8th Grade - Readiness Standard 4 - 7.EE.1b - Form A

1. We Do Together: Draw two ways and show.

<p>Draw an <u>array model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$+x$</td> <td>$+x$</td> <td>$+x$</td> <td>$-$</td> </tr> <tr> <td>$+$</td> <td>x</td> <td>x</td> <td>x</td> <td>$-$</td> </tr> <tr> <td>$+$</td> <td>x</td> <td>x</td> <td>x</td> <td>$-$</td> </tr> </table>		$+x$	$+x$	$+x$	$-$	$+$	x	x	x	$-$	$+$	x	x	x	$-$	<p>Draw an <u>area model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$3x$</td> <td>$+ -1$</td> </tr> <tr> <td>2</td> <td>$2(3x)$ $6x$</td> <td>$2(-1)$ -2</td> </tr> </table>		$3x$	$+ -1$	2	$2(3x)$ $6x$	$2(-1)$ -2	<p>Show your thinking using numbers and symbols</p> $2(3x - 1)$ $2(3x + -1)$ $2(3x) + 2(-1)$ $6x + -2$	
	$+x$	$+x$	$+x$	$-$																				
$+$	x	x	x	$-$																				
$+$	x	x	x	$-$																				
	$3x$	$+ -1$																						
2	$2(3x)$ $6x$	$2(-1)$ -2																						
<p>Draw an <u>array model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$+x$</td> <td>$-$</td> <td>$-$</td> </tr> <tr> <td>$-$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> </tr> <tr> <td>$-$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> </tr> <tr> <td>$-$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> </tr> </table>		$+x$	$-$	$-$	$-$	$-x$	$+$	$+$	$-$	$-x$	$+$	$+$	$-$	$-x$	$+$	$+$	<p>Draw an <u>area model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>x</td> <td>$+ -2$</td> </tr> <tr> <td>-3</td> <td>$-3(x)$ $-3x$</td> <td>$-3(-2)$ 6</td> </tr> </table>		x	$+ -2$	-3	$-3(x)$ $-3x$	$-3(-2)$ 6	<p>Show your thinking using numbers and symbols</p> $-3(x - 2)$ $-3(x + -2)$ $-3(x) + -3(-2)$ $-3x + 6$
	$+x$	$-$	$-$																					
$-$	$-x$	$+$	$+$																					
$-$	$-x$	$+$	$+$																					
$-$	$-x$	$+$	$+$																					
	x	$+ -2$																						
-3	$-3(x)$ $-3x$	$-3(-2)$ 6																						

2. Reflect: What questions do you have about expanding algebraic expressions?

3. You Do Together: Draw two ways and show.

<p>Draw an <u>array model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$-x$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> </tr> <tr> <td>$+$</td> <td>$-x$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> </tr> <tr> <td>$+$</td> <td>$-x$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> </tr> <tr> <td>$+$</td> <td>$-x$</td> <td>$-x$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> </tr> </table>		$-x$	$-x$	$+$	$+$	$+$	$+$	$-x$	$-x$	$+$	$+$	$+$	$+$	$-x$	$-x$	$+$	$+$	$+$	$+$	$-x$	$-x$	$+$	$+$	$+$	<p>Draw an <u>area model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$-2x$</td> <td>$+ 3$</td> </tr> <tr> <td>3</td> <td>$3(-2x)$ $-6x$</td> <td>$3(3)$ 9</td> </tr> </table>		$-2x$	$+ 3$	3	$3(-2x)$ $-6x$	$3(3)$ 9	<p>Show your thinking using numbers and symbols</p> $3(-2x + 3)$ $3(-2x) + 3(3)$ $-6x + 9$
	$-x$	$-x$	$+$	$+$	$+$																											
$+$	$-x$	$-x$	$+$	$+$	$+$																											
$+$	$-x$	$-x$	$+$	$+$	$+$																											
$+$	$-x$	$-x$	$+$	$+$	$+$																											
	$-2x$	$+ 3$																														
3	$3(-2x)$ $-6x$	$3(3)$ 9																														
<p>Draw an <u>array model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$-x$</td> <td>$-$</td> <td>$-$</td> <td>$-$</td> <td>$-$</td> </tr> <tr> <td>$-$</td> <td>$+x$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> </tr> <tr> <td>$-$</td> <td>$+x$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> <td>$+$</td> </tr> </table>		$-x$	$-$	$-$	$-$	$-$	$-$	$+x$	$+$	$+$	$+$	$+$	$-$	$+x$	$+$	$+$	$+$	$+$	<p>Draw an <u>area model</u> to multiply</p> <table border="1"> <tr> <td></td> <td>$-x$</td> <td>$+ -4$</td> </tr> <tr> <td>-2</td> <td>$-2(-x)$ $2x$</td> <td>$-2(-4)$ 8</td> </tr> </table>		$-x$	$+ -4$	-2	$-2(-x)$ $2x$	$-2(-4)$ 8	<p>Show your thinking using numbers and symbols</p> $-2(-x - 4)$ $-2(-x + -4)$ $-2(-x) + -2(-4)$ $2x + 8$						
	$-x$	$-$	$-$	$-$	$-$																											
$-$	$+x$	$+$	$+$	$+$	$+$																											
$-$	$+x$	$+$	$+$	$+$	$+$																											
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Name _____

Date _____

Learning Target: I will factor linear expressions

8th Grade - Readiness Standard 5 - 7.EE.1c - Form A

1. We Do Together: List, circle, label, find and write.

<p>List the factors and circle the greatest common factor</p> <table border="1"> <thead> <tr> <th>$8x$</th> <th>12</th> </tr> </thead> <tbody> <tr> <td>$1 \cdot 8 \cdot x$</td> <td>$1 \cdot 12$</td> </tr> <tr> <td>$2 \cdot \textcircled{4} \cdot x$</td> <td>$2 \cdot 6$</td> </tr> <tr> <td></td> <td>$3 \cdot \textcircled{4}$</td> </tr> </tbody> </table>	$8x$	12	$1 \cdot 8 \cdot x$	$1 \cdot 12$	$2 \cdot \textcircled{4} \cdot x$	$2 \cdot 6$		$3 \cdot \textcircled{4}$	<p>Label the height as the greatest common factor and find the partial lengths</p> <table border="1"> <thead> <tr> <th colspan="2">$2x + 3$</th> </tr> </thead> <tbody> <tr> <td>$4(2x)$</td> <td>$4(3)$</td> </tr> <tr> <td>$8x$</td> <td>12</td> </tr> </tbody> </table>	$2x + 3$		$4(2x)$	$4(3)$	$8x$	12	<p>Write an equivalent expression using the greatest common factor</p> $8x + 12$ $4(2x + 3)$
$8x$	12															
$1 \cdot 8 \cdot x$	$1 \cdot 12$															
$2 \cdot \textcircled{4} \cdot x$	$2 \cdot 6$															
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$2x + 3$																
$4(2x)$	$4(3)$															
$8x$	12															
<p>List the factors and circle the greatest common factor</p> <table border="1"> <thead> <tr> <th>$15x$</th> <th>-5</th> </tr> </thead> <tbody> <tr> <td>$1 \cdot 15 \cdot x$</td> <td>$-1 \cdot \textcircled{5}$</td> </tr> <tr> <td>$3 \cdot \textcircled{5} \cdot x$</td> <td>$1 \cdot -5$</td> </tr> </tbody> </table>	$15x$	-5	$1 \cdot 15 \cdot x$	$-1 \cdot \textcircled{5}$	$3 \cdot \textcircled{5} \cdot x$	$1 \cdot -5$	<p>Label the height as the greatest common factor and find the partial lengths</p> <table border="1"> <thead> <tr> <th colspan="2">$x + -1$</th> </tr> </thead> <tbody> <tr> <td>$5(x)$</td> <td>$5(-1)$</td> </tr> <tr> <td>$15x$</td> <td>-5</td> </tr> </tbody> </table>	$x + -1$		$5(x)$	$5(-1)$	$15x$	-5	<p>Write an equivalent expression using the greatest common factor</p> $15x - 5$ $15x + -5$ $5(3x + -1)$		
$15x$	-5															
$1 \cdot 15 \cdot x$	$-1 \cdot \textcircled{5}$															
$3 \cdot \textcircled{5} \cdot x$	$1 \cdot -5$															
$x + -1$																
$5(x)$	$5(-1)$															
$15x$	-5															

2. Reflect: What questions do you have about factoring algebraic expressions?

3. You Do Together: List, circle, label, find and write.

<p>List the factors and circle the greatest common factor</p> <table border="1"> <thead> <tr> <th>$18x$</th> <th>-12</th> </tr> </thead> <tbody> <tr> <td>$1 \cdot 18 \cdot x$</td> <td>$-1 \cdot 12$</td> </tr> <tr> <td>$2 \cdot 9 \cdot x$</td> <td>$1 \cdot -12$</td> </tr> <tr> <td>$3 \cdot \textcircled{6} \cdot x$</td> <td>$-2 \cdot \textcircled{6}$</td> </tr> <tr> <td></td> <td>$2 \cdot -6$</td> </tr> <tr> <td></td> <td>$-3 \cdot 4$</td> </tr> <tr> <td></td> <td>$3 \cdot -4$</td> </tr> </tbody> </table>	$18x$	-12	$1 \cdot 18 \cdot x$	$-1 \cdot 12$	$2 \cdot 9 \cdot x$	$1 \cdot -12$	$3 \cdot \textcircled{6} \cdot x$	$-2 \cdot \textcircled{6}$		$2 \cdot -6$		$-3 \cdot 4$		$3 \cdot -4$	<p>Label the height as the greatest common factor and find the partial lengths</p> <table border="1"> <thead> <tr> <th colspan="2">$3x - 2$</th> </tr> </thead> <tbody> <tr> <td>$6(3x)$</td> <td>$6(-2)$</td> </tr> <tr> <td>$18x$</td> <td>-12</td> </tr> </tbody> </table>	$3x - 2$		$6(3x)$	$6(-2)$	$18x$	-12	<p>Write an equivalent expression using the greatest common factor</p> $18x - 12$ $18x + -12$ $6(3x + -2)$
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<p>List the factors and circle the greatest common factor</p> <table border="1"> <thead> <tr> <th>$-3x$</th> <th>-15</th> </tr> </thead> <tbody> <tr> <td>$-1 \cdot 3 \cdot x$</td> <td>$-1 \cdot 15$</td> </tr> <tr> <td>$1 \cdot \textcircled{-3} \cdot x$</td> <td>$1 \cdot -15$</td> </tr> <tr> <td></td> <td>$\textcircled{-3} \cdot 5$</td> </tr> <tr> <td></td> <td>$3 \cdot -5$</td> </tr> </tbody> </table> <p>↑ exception to GCF rule</p>	$-3x$	-15	$-1 \cdot 3 \cdot x$	$-1 \cdot 15$	$1 \cdot \textcircled{-3} \cdot x$	$1 \cdot -15$		$\textcircled{-3} \cdot 5$		$3 \cdot -5$	<p>Label the height as the greatest common factor and find the partial lengths</p> <table border="1"> <thead> <tr> <th colspan="2">$x + 5$</th> </tr> </thead> <tbody> <tr> <td>$-3(x)$</td> <td>$-3(5)$</td> </tr> <tr> <td>$-3x$</td> <td>-15</td> </tr> </tbody> </table>	$x + 5$		$-3(x)$	$-3(5)$	$-3x$	-15	<p>Write an equivalent expression using the greatest common factor</p> $-3x - 15$ $-3x + -15$ $-3(x + 5)$				
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$-3x$	-15																					

Learning Target: I will solve equations with more than one step 8th Grade - Readiness Standard 6 - 7.EE.4a - Form A

1. We Do Together: Say, draw, and show.

<p>Say what you see</p> <p style="text-align: center;"><i>is equal to</i></p>	<p>Show your thinking using numbers and symbols</p> $ \begin{array}{r} 3x + 1 = 13 \\ -1 \quad -1 \quad \leftarrow \text{Subtract Positive} \\ \hline 3x = 12 \\ \frac{3x}{3} = \frac{12}{3} \\ x = 4 \end{array} $
<p>Draw <u>two</u> ways to find the value of x. (Algebra Tiles and Tape Diagrams)</p>	

2. Reflect: What questions do you have about solving equations with more than one step?

3. You Do Together: Say, draw, and show.

<p>Say what you see</p> <p style="text-align: center;"><i>is equal to</i></p>	<p>Show your thinking using numbers and symbols</p> $ \begin{array}{r} 2(x + 3) = 16 \\ 2x + 6 = 16 \\ -6 \quad -6 \quad \leftarrow \text{Subtract Positive} \\ \hline 2x = 10 \\ \frac{2x}{2} = \frac{10}{2} \\ x = 5 \end{array} $
<p>Draw <u>two</u> ways to find the value of x. (Algebra Tiles and Tape Diagrams)</p>	

<p>Say what you see</p>	<p>Show your thinking using numbers and symbols</p> $ \begin{array}{r} 13 = \frac{2}{3}x + 5 \\ -5 \quad -5 \quad \leftarrow \text{Subtract Positive} \\ \hline 8 = \frac{2}{3}x \\ \frac{8}{\frac{2}{3}} = \frac{\frac{2}{3}x}{\frac{2}{3}} \\ 8 \cdot \frac{3}{2} = 4 = x \end{array} $
<p>Draw to find the value of x. (Tape Diagrams)</p>	

Learning Target: I will solve equations with more than one step — 8th Grade - Readiness Standard 6 - 7.EE.4a - Form A

1. We Do Together: Say, draw, and show.

<p>Say what you see</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <table border="1" style="margin-bottom: 10px;"> <tr><td>+x</td></tr> <tr><td>+x</td></tr> <tr><td>+x</td></tr> </table> <p>+</p> <table border="1" style="margin-bottom: 10px;"> <tr><td>x</td></tr> <tr><td>x</td></tr> <tr><td>x</td></tr> </table> <p>is equal to</p> </div> <div style="text-align: center;"> <table style="margin-bottom: 10px;"> <tr><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr> <tr><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr> <tr><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr> </table> <table style="margin-bottom: 10px;"> <tr><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr> <tr><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr> <tr><td>+</td><td>+</td><td>+</td><td>+</td><td>+</td></tr> </table> </div> <div style="text-align: center;"> <table border="1" style="margin-bottom: 10px;"> <tr><td>3x</td><td>1</td></tr> </table> <table border="1" style="margin-bottom: 10px;"> <tr><td>13</td></tr> </table> <table style="margin-bottom: 10px;"> <tr><td>12</td><td>1</td></tr> <tr><td>x</td><td>x</td><td>x</td><td>x</td><td>x</td></tr> <tr><td>4</td><td>4</td><td>4</td><td></td><td></td></tr> </table> </div> </div>	+x	+x	+x	x	x	x	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	3x	1	13	12	1	x	x	x	x	x	4	4	4			<p>Show your thinking using numbers and symbols</p> $3x + 1 = 13$ $\begin{array}{r} -1 \quad -1 \\ \hline 3x = 12 \\ \frac{3x}{3} = \frac{12}{3} \\ x = 4 \end{array}$ <p style="text-align: right; margin-right: 20px;">Add Negative 1</p>
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