Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CFS for top quality work**

* + **Inverse operations** are used on both sides of the equation
	+ Solution is in the form **x = #**
	+ **Substitution** is used to check the solution

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNIT 4 LESSON 4

**AIM**: SWBAT solve two-step equations algebraically with integers

**THINK ABOUT IT!**

Solve the equation and check your work

$$-5n+\left(-12\right)= -2$$

Test the Conjecture #1) Solve the equation

-4 – 2x = -20

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Test the Conjecture #2) Solve the equation

$$-\frac{r}{2}+\left(-3\right)=6$$

Conjecture

|  |
| --- |
| Integer operations can be applied to solve equations using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ operations. |

**PARTNER PRACTICE**

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| *Bachelor Level* |

1. Solve for c in the equation. Show all steps and conduct a check to make sure your answer is correct.

**CFS for top quality work**

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$$\frac{c}{2}-8=\left(-3\right)$$

1. Solve the equation and perform a formal check of your solution

**CFS for top quality work**

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	+ Solution is in the form **x = #**
	+ **Substitution** is used to check the solution

$$–2d+ 9=21$$

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| *Master Level* |

1. Lauren solved the equation and got a solution of -8. Prove that her answer is either correct or incorrect. Describe the steps needed to solve if the solution is correct. Solve correctly if the solution is wrong.

$$5=\frac{n}{4}+\left(-7\right)$$

**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

Solve the following equations for the variable and check your solution.

**CFS for top quality work**

* + **Inverse operations** are used on both sides of the equation
	+ Solution is in the form **x = #**
	+ **Substitution** is used to check the solution
1. $-12 = - 3b + 9$

**CFS for top quality work**

* + **Inverse operations** are used on both sides of the equation
	+ Solution is in the form **x = #**
	+ **Substitution** is used to check the solution
1. $-1= \frac{d}{4}- 5$

**CFS for top quality work**

* + **Inverse operations** are used on both sides of the equation
	+ Solution is in the form **x = #**
	+ **Substitution** is used to check the solution
1. $\frac{h}{3} – 11 = -6$

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| *Master Level* |

1. Error Analysis: Prove the solution provided is not the answer by performing a formal check. Determine which line the error is in, solve correctly, and explain the error that was made.

$$ -5-12j = 19$$

$$ -5+5-12j = 19+5$$

$$ 12j = 24$$

$$ \frac{12j}{12} = \frac{24}{12}$$

$$ j = 2$$

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1. You are the test maker! Come up with three answer choices to the equation below. Circle the correct answer and explain the error the scholar would have to make to arrive at the other two answers you provided.

$$-\frac{n}{2}+\left(-4\right)=-8$$

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| *PhD Level* |

1. Apply your knowledge of solving equation and rational number operations to solve the following two problems:
	1. 0.5n – 3.25 = 12.38
	2. $-\frac{1}{4}n+\frac{2}{3}=1\frac{5}{6}$
2. Do the rules for solving equations with integers apply to solving equations with rational numbers? How can you use your answers to the previous question to prove your answer?

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**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**CFS for top quality work**

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	+ Solution is in the form **x = #**
	+ **Substitution** is used to check the solution

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

|  |  |  |  |
| --- | --- | --- | --- |
| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. Find the value of b in the equation $-24= 3b+\left(-12\right)$ Complete a formal check to verify that your answer is correct.

 2. Jeff solved the problem below.

$$2m+14= -4$$

$$\frac{2m}{2}+14= -\frac{4}{2}$$

$$m+14=2$$

$$m+14+\left(-14\right)= 2+\left(-14\right)$$

$$m= -12$$

What is the error that Jeff made? Explain.

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