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UNIT 7 LESSON 2

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| AIM: | SWBAT determine when an equation or inequality is true |

**THINK ABOUT IT!**

Given the set of values {5, 6, 6.5}, which values from the set can be substituted into the equation and inequality for n to make each statement true?

4+n = 9

4+n > 9

Explain how you knew when a value made the equation true. Explain how you knew when a value made the inequality true.

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Key Point

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**Interaction with New Material**

*Ex.1)* The set of numbers 1, 4, 11, and 52 contains values for m. What value of m makes the equation below true?

4m + 8 = 52

*Ex.2)* What value(s) of n from the set of numbers {0, 2.5, 3, 3.5, 4} make the inequality below true?

12 ≥ 2n + 6

**PARTNER PRACTICE**

CFS for top quality work

* + Problem is annotated with margin notes to provide additional meaning
	+ Values are substituted into the equation/inequality
	+ Expressions are evaluated
	+ All calculations are shown, neatly organized, and labeled
	+ Answer statement is provided.

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| *Bachelor Level* |

1. Use the set {12.25, 13, 14.5, 15, 16} to determine which value(s) are solutions to the following inequality and equation. Prove that your choice(s) makes the equation or inequality true using substitution.
2. 3g$ \geq $42
3. 4.1 = d – 10.4

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| *Master Level* |

1. Select all of the equations or inequalities where x=5 is a solution.
2. 2x+4=14
3. 5x$\geq $55
4. 6x+3>33
5. 23=8+2.5x
6. 14>2.2x+2
7. Which value(s) of x in the set below make the equation x = x true? Explain.

{4.5, 5.75, 7 ½, 9.65}

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**INDEPENDENT PRACTICE**

CFS for top quality work

* + Problem is annotated with margin notes to provide additional meaning
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	+ All calculations are shown, neatly organized, and labeled
	+ Answer statement is provided.

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| *Bachelor Level* |

1. Use the set {6, 7.4, 8, $10\frac{3}{4}$, 12.2} to determine which of the values are solutions to the following equations and inequalities.
	1. 5 + x > 13
	2. 3g + 6 < 30
	3. 25 ½ = 4 + 2x
	4. $7.2\leq h-3.6$

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| *Master Level* |

1. What value of y makes the equation below true? 2y + 2.9 = 21.2
2. 8.1
3. 8.9
4. 9.1
5. 13.9
6. Which equation is true when *n* = 4? Circle all that apply.
	1. 2*n* = 6
	2. *n* + 3 = 7
	3. 9 − *n* = 13
	4. $\frac{n}{12}=3$

Explain how you know the equation(s) you selected for problem 2 is/are correct.

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1. For which inequality does the value 2 for x make the statement true? Circle all that apply.
	1. 2*x* − 3 > 19
	2. 8 ≤ 3*x* + 2
	3. 4*x* − 4 > 4
	4. 10 < 5x + 1

Explain how you know the inequality or inequalities you selected for problem 3 is/are correct.

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| *PhD Level* |

1. Use the set {0, 2, 3} to determine a solution to the equation below.

3x +5 = 5 + 3x

Is it possible for there to be more than one solution to an equation? Why or why not?

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CFS for top quality work

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**EXIT TICKET**

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| 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. Choose the value or values of *g* from the set of numbers that will make the following equations and inequalities true.

{7, 9, 9.1, 11.5}

1. 5g > 45
2. 14 = 5 + g
3. $32\leq g+20.5$
	* + 1. Explain how you determined your answer to part c above.

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