Geometry Local Lomac 2015-2016 **Date** 9/10 **due** 9/11 **Equations and Solutions** **1.1L**

☐ **DO NOW –** On the back of this packet

Name _____

LO: I can describe what an equation is and what a solution is, and can verify solutions to equations.

☐ (1) pencil/pen **Need to know**

Equations: An equation is a statement about the _____ of two expressions. In other words, anything that takes this form:

Expression #1 = Expression #2

Solutions: A value for a variable is called a _____ to the equation if, when substituted into both expressions, results in the equation being _____.

Order of Operations: (1) **P**_____

(2) **E**_____ and roots

(3) **M**_____ and **D**_____ left to right

(4) **A**_____ and **S**_____ left to right

☐ (2) pencil/pen **Is that an equation?:** Write "yes" or "no" next to each item below.

_____ (a) $3 + 1 = 4 + 0$

_____ (b) $2(4x + 1)$

_____ (c) $x^2 - 2x = 8$

_____ (d) $1+ 3 = 6$

☐ (3) pencil/pen **Is that equation true?:**

(a) Write "true" or "false" next to each equation (and ONLY the equations) in part (2)

(b) Why can't you determine whether the equation $2x - 8 = 10 - x$ is true?

(b) If $x = 5$, will the equation $2x - 8 = 10 - x$ be true? How can you tell?

(c) Show that $x = 6$ makes the equation true. Remember to think very carefully about your order of operations

☐ (4) pencil/pen **Is that a Solution?:** Determine whether each of the following values for the given variable is a solution to the given equation. Show the calculations that lead you to your final conclusions.

(a) $2x+3=17$ and $x=7$

(b) $\frac{x-20}{5}=-4$ and $x=10$

(c) $2(x+5)=6(x-1)$ and $x=4$

(d) $x^2-1=2x+2$ and $x=-1$

(e) $\frac{3(x+2)}{4}-1=5$ and $x=2$

(f) $\frac{3}{4}x-1=-\frac{1}{2}x+9$ and $x=8$

☐ (5) pen or pencil, square paper **Apply the concept of solution**

Bobby wants to go on a school trip that will cost him \$250. He comes up with an equation that represents how much he needs to save each week as follows:

$25w+30=250$, where w is the number of weeks spent saving.

(a) If he has 9 weeks to save will he have enough money to go on the trip? Explain.

(b) He also wants to have \$100 spending cash on the trip. He decides to save an extra \$10 a week. To do this he changes his original equation as follows;

$25w+30+10w=250+100$, where w is the number of weeks spent saving.

Will nine weeks be enough time now? Show your calculations and Explain.

☐ (6) **Exit Ticket**

ON THE LAST PAGE

☐ (7) **Homework**

pen or pencil, square paper

FLUENCY

1. Decide if each of the following are **equations** or **expressions**. You do not need to solve the equations or evaluate the expressions.

(a) $5x+13$ (b) $4x+3=12$ (c) $\frac{6(x-1)}{4}+1=5$

(d) $3(x+2)^2-(45)^3$ (e) $3^2-5|2x-15|$ (f) $3[(x+2)^2+2(x-4)]=3\sqrt{4(2x+1)}$

2. Determine whether each of the following values for the given variable is a solution to the given equation. Show the calculations that lead to your final conclusions.

(a) $x-4=12$ and $x=8$ (b) $\frac{(3+x)}{4}=3$ and $x=9$

(c) $(x+2)-3(x-4)=6$ and $x=4$ (d) $\frac{1}{3}(x+2)=-\frac{2}{5}(x-9)$ and $x=4$

	CLASS SUPPLY LIST **Pencil Eraser Compass Ruler Highlighters Pens Markers Scissors** **Glue Dry Erase Marker Sheet Protector**

Exit Ticket **Name**_____ **Date** _____ **Per**_____ **1.1L**

(1) The LO (Learning Outcomes) are written below your name on the front of this packet. Demonstrate your achievement of these outcomes by explaining:

Kirk was checking to see if $x = 7$ was a solution to the equation $4x - 3 = 2x + 11$. He concluded that it was not a solution based on the following work. Was his conclusion correct? Describe what he did correctly and what he did incorrectly (if anything). It might help to number Kirk's steps.

$4x - 3 = 2x + 11$

$4 \cdot 7 - 3 = 2 \cdot 7 + 11$

$4 \cdot 4 = 2 \cdot 18$

$16 = 36$ No!

DO NOW **Name**_____ **Date** _____ **Per**_____ **1.1L**

(1) Think about the word "solution." Write the meanings that the word "solution" has for you.

_____

_____

_____

_____

(2) Describe why the cartoon below is supposed to make people smile. REALLY think about it.

If you still aren't sure, describe what is happening in the cartoon.

"Just a darn minute! — Yesterday you said that X equals **two**!"