Alg 3 Summer Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 WS Assessment

 Target 3:

Inequalities

**I can:**

* Solve inequalities on a number line
* Solving System of Inequalities by graphing
* Write the equation or inequality that best models the problem

**Unit 1: Solving Equation & Inequalities**

* **CCSS.Math.Content.HSA.CED.A.1**: Create equations and inequalities in one variable and use them to solve problems
* **CCSS.Math.Content.HSA.CED.A.2**: Create equations in two or more variables to represent relationships between quantities
* **CCSS.Math.Content.HSA.REI.A.2**: Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
* **CCSS.Math.Content.HSA.CED.A.3**: Represent constraints by equations or inequalities, and by systems of equations and/or inequalities and interpret solutions as viable or nonviable options in a modeling context.
* **CCSS.Math.Content.HSA.CED.A.4**: Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Solve the inequality and graph the solution on the number line

$-19+2x \leq -21$ $-9+62x >-15$

$8x-2 \geq -18$ $-15+6x <-27$

$5+7x \leq 26$ $4+5x \leq -31$

$-8x+4 >44$ $-3x+69 \leq 54$

Solve the following inequality for n

$4n-6<10n+7$ $5n-2 \leq 3n+8 $

$9n+7 \geq 10n -1$ $2n-5>6n-6$

$-2n-\left(-10n+7\right)\leq 2n0 4-9n$ $5-3\left(-7n+1\right)>-5n-3+9n$

$-10-\left(-8n-7\right)>3n-10-4n$ $6+4\left(-2n+9\right)\geq n+2-7n$

Determine the smallest integer value of x in the solution of the following inequality

$-5x-1<5$ $-3x+10<15$

$4x-10>-17$ $3x+3>17$

Determine the largest integer value of x in the solution of the following inequality

$-4x+4>-12$ $5x-8<9$

Graphing the inequality on the given graph

 $3x-2y\geq 14$ 5$x+4y<-32$

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Re-graph the above problem in calculator for stamp

Keith has $500 in a savings account at the beginning of the summer. He wants to have at least $200 in the account by the end of the summer. He withdraws $25 each week for food, clothes, and movie tickets.

* Write an inequality that represents Keith's situation.
* How many weeks can Keith withdraw money from his account? Justify your answer.

Yellow Cab Taxi charges a $1.75 flat rate in addition to $0.65 per mile. Katie has no more than $10 to spend on a ride. Write an inequality that represents Katie's situation.

How many miles can Katie travel without exceeding her budget? Justify your answer.

Fred bought 3 shirts, each of the same price and received less than $12 change from a $50 bill. What is the maximum cost of 1 shirt?

Solve the following system of inequalities graphically on the set of axes below. State the coordinates of **a point** in the solution set.

 $y>\frac{1}{6}x+3$ $y\geq \frac{3}{2}x-7$

$y\leq -\frac{1}{2}x+7$ $y\geq -x+3$

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Use graphing calculator to solve the following system of inequalities graphically on the set of axes below. State the coordinates of **a point** in the solution set. Sketch and show me for stamp then just write down the point

 $y>x^{2}+1$ $x^{2}+y^{2}<4$

 $y<|3-x|$ $\left|y\right|<|-x|$

Solve by algebra and graph

Sam and Alex play in the same soccer team. Last Saturday Alex scored 3 more goals than Sam, but together they scored less than 9 goals. What are the possible number of goals Alex scored?

A rectangular room fits at least 7 tables that each have 1 square meter of surface area. If the perimeter of the room is not more than 16 m. What could the width and length of the room be?

Kelly can work for her dad and make $6.00 per hour, or she can work for Jana's Mowing Service and make $14.00 per hour. If she needs to make at least $84, and can only work 10 hours total.  She can work at most 5 hours for Jana's Mowing Service. Write and graph a system of equations that represents all the possible solutions.

**Assessment Target 3**

**I can…** solve inequalities and system of inequalities problems

1. Solve the inequality and graph the solution on the number line

 $-9x-4\left(-3x-3\right)\geq 6x+6+6x$

2. Alex sells books online. She makes a flat profit of $2.00 per book, but she needs to pay $4.00 per day to Paypal for using the app on her website. How many books does she need to sell to make at least $120.00 per day? Show inequalities solution

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| 3. Solve the following system of inequalities graphically on the set of axes below. State the coordinates of **a point** in the solution set. $y>-2x-5$ $y\geq x+8$  | 4. In basketball you score 2 points for a field goal and 1 point for a free throw. Suppose that you have scored at least 3 points in every game this season, and have a season high score of at most 15 points in one game. How many field goals and free throws could you have made in any one game? Write a system of two inequalities that describes this situation. b. Graph the system for **stamp** and write down to show all possible outcomes. |