GSE Algebra 1 Unit 4 Test Review Name: \_\_\_\_\_\_\_\_\_\_

Show all work! No work, no credit ☺

1. Solve the following problem. Be sure to justify each step as you do it.

$$-3(x-3)=-27$$

Solve the following inequalities. Be sure to graph them on a number line.

1. $-3x-22\leq 20$ 3) $4(x+3)>-12$ 4) $\frac{-2x}{7}-2\leq 6$



Solve the following equations for the specified variable.

1. Solve for x: $\frac{ax-by}{c}=d$ 6) Solve for b: $a-b+c=3d$ 7) Solve for y:

$$ 4(2x-7y)=2(3x+13y)$$

Kameron is driving on a race-trac. He just completed lap 45. The fastest he will drive is 175 miles per hour. He will finish the race when he hits lap 300.

1. What would be the inequality that represents his speed?
2. Given the following inequality, tell what each part represents.

$$45+175x\leq 300$$

Amelia went on a road trip with some friends. She recorded the following information on the way to their destination:

* The trip took 3 hours - The car they took gets 30 miles per gallon. - 5 gallons of gas were used
* Her average speed was 50 miles per hour. - The price of gas was $3.00 per gallon
1. How far away was their destination? (show your work)
2. Are the following the same (equivalent)?
3. $\frac{4x+6}{2}+3$ $2x+3$ b. $4(2x-5)$ $\frac{8x-20}{4}$ c. $\frac{-3(3x+1)}{3}$ $-3x-1$
4. You are starting a business where you will pick up leaves in order to save up money to purchase yourself a new cell phone. The cell phone is $800. You already have $250 from last fall where you did the same thing. You charge $10.50 an hour. Write and solve the inequality that shows how many hours you need to work to make at least $800 so that you can afford the new phone.
5. You want to know what you need to make on your next Algebra test in order to pass the class with at least a B. The averages that you have so far on the first 4 tests are 76, 73, 83 and a 91. What would be the average that you have to make on the 5th test to complete this task?

Write the inequalities and intervals that go with these number lines.

1.  Interval: Inequality:
2.  Interval: Inequality:
3.  Interval: Inequality:

Solve the following equations for y (slope intercept form)

1. $2(3x-4y)=17$ 18) $2y-12x=24$ 19) $x-3y=1$

Which one is larger? How do you know?

1. Given: $-3x-15>-6$ 19) Given: x < y

x or -2 $x-y or y-x$

1. Are the values given part of the solution set for the following: $-2x-4>-12$
2. x = 2 and x = 3 b. x = 4 and x = 10 c. x = -2 and x = 14 d. x = 1 and x = 0
3. Solve the following inequality and be sure you label what each step is.

$$\frac{3(x-3)}{-5}\leq 3$$

1. Solve the following to see where the two lines intersect.

$$\left\{\begin{array}{c}4x=-16\\3x-4y=24\end{array}\right.$$