Algebra 1 B **Name** _____

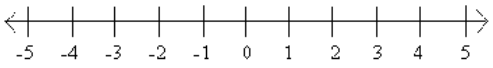
Unit 5 Review **Period** _____ **Date** _____

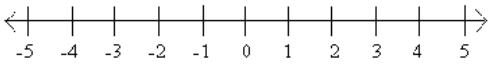
Objective 1 – Identify the following inequality symbols

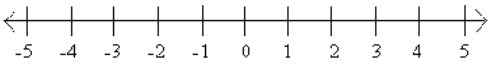
1. $>$ 1. _____
2. $<$ 2. _____
3. $\geq$ 3. _____
4. $\leq$ 4. _____
5. $=$ 5. _____
6. $\neq$ 6. _____
7. Define Conjunction

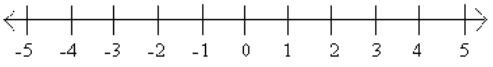
8. Define Disjunction

Objective 2 – Graph the following inequalities on the number line provided

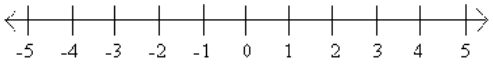
9. $x \leq -5$ 9. 

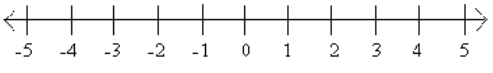
10. $x > 2$ 10. 

11. $3 \leq x$ 11. 

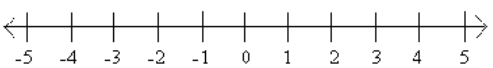
12. $-2 > x$ 12. 

Objective 3 – Graph the following compound inequalities on the number line provided

13. $-2 \leq x < 1$ 13. 

14. $x > 3$ or $x \leq -1$ 14. 

15. $x \geq 0$ or $x < 4$ 15. 

16. $4 > x > 1$ 16. 

Objective 4 – Solve the following inequalities

17. $-3x > -21$ 17. _____

18. $5x - 4 \leq -29$ 18. _____

19. $7 < 6 - \frac{x}{2}$ 19. _____

20. $-2 - x \geq 2x + 10$ 20. _____

21. $-2(x + 4) < 7 - 3x$ 21. _____

22. $4x - 2(3 - x) \geq 0$ 22. _____

Objective 5 – Solve the following compound inequalities

23. $5 \leq x - 8 \leq 7$ 23. _____

24. $-5 < 2x - 11 < 7$ 24. _____

25. $3x \leq -12$ or $5 \leq 2x + 7$ 25. _____

26. $2x + 1 < -13$ or $x - 5 > -5$ 26. _____

Objective 6 – Modeling inequalities

Write the inequality that models each situation. DO NOT SOLVE.

27. The value of the car is at least $6,000. 27. _____
Let *v* = the value of the car

28. The temperature was at most $76°\text{F}$ and higher than $65°\text{F}$. 28. _____
Let *t* = the temperature

Write the inequality that models the situation. Solve and then interpret your solution.

29. The cost of going to an amusement park was $14 to get into the park then $2 for each ride. Max only had $40 and could not spend more than this. What is the maximum number of rides Max can go on?

Let n = the number of rides

a. Write an inequality that models the situation. _____

b. Solve the inequality. _____

c. Interpret your solution. _____

30. Sami wants to have t-shirts made for the Volunteer club. Company A will charge $22 for setup and $5 per t-shirt. Company B will charge $30 for setup and $4 per t-shirt. For how many t-shirts will Company A be cheaper than Company B?

Let n = the number of t-shirts

a. Write an inequality that models the situation. _____

b. Solve the inequality. _____

c. Interpret your solution. _____