

Algebra I

Worksheet 54

Name _____

Translate the verbal phrase into an inequality. Then graph the inequality.

1. All real numbers that are less than or equal to -3 *and* greater than or equal to -8



2. All real numbers that are greater than 5 *or* less than or equal to -1



3. All real numbers that are greater than or equal to -2.5 *and* less than 3.5



Solve the inequality. Graph your solution.

4. $-3 < x + 1 \leq 5$



5. $-7 < x - 8 < 2$



6. $-5 < -5x \leq 20$



7. $0 \leq 2(x - 3) < 8$



8. $3x + 2 < 8$ or $-x + 3 < -2$



9. $2(x + 4) < 6$ or $-x - 3 \leq -7$



10. $5x < -30$ or $x + 10 > 7$



11. $3x + 5 \leq 1$ or $8 - x < 5$



Write the verbal sentence as an inequality. Then solve the inequality and graph your solution.

12. Three times x is less than -6 and greater than -21 .



13. One less than x is less than -1 or 3 more than x is greater than or equal to 7.



14. The difference of $2x$ and 5 is greater than -3 and less than or equal to 11.



15. The sum of $3x$ and 1 is greater than -5 and less than or equal to 10.



16. **Temperature** The high temperature in a city last year was 95°F . The low temperature in this city last year was -5°F . Write and graph a compound inequality that represents the temperatures T throughout the year.



