

Algebra I

Worksheet 5.3

Name _____

What is the first step you would use to solve the inequality?

1. $8x + 6 < 1$

2. $-10 > 3a - 5$

3. $2(y - 1) \geq 9$

4. $2(p - 5) < 13$

5. $4n - 3 > 2n$

6. $6b + 1 \geq 9 - 4b$

Match the verbal sentence with the inequality.

7. Three more than 2 times a number x is greater than 27.

A. $2 + 3x > 27$

8. Twice the sum of 3 and a number x is greater than 27.

B. $3 + 2x > 27$

9. Three times the sum of 2 and a number x is greater than 27.

C. $2(3 + x) > 27$

10. Two more than 3 times a number x is greater than 27.

D. $3(2 + x) > 27$

Solve the inequality. Graph your solution.

11. $2x + 4 \geq 6$

12. $3p - 1 < 5$



13. $5n + 8 \geq -7$

14. $4a - 9 \leq -25$



15. $-2y + 3 \geq 3$

16. $-1 - 4c < 3$



17. $5(m + 1) \leq 20$



18. $3(p - 2) > 6$



19. $7(x - 4) \leq 0$



20. $4(w + 6) \geq 60$



Solve the inequality, if possible.

21. $6x + 2 \leq 5x + 2$

22. $4y + 1 > y - 8 + 3y$

23. $2x - 8 + 3x \geq 5x - 4$

24. $3(b - 1) < 3b + 3$

25. $9a - 6a + 1 \leq 1 + 3a$

26. $8y + 10 > 2(4y + 7) - 3$

Translate the verbal phrase into an inequality. Then solve the inequality and graph your solution.

27. The sum of $4x$ and 7 is less than or equal to 39 .



28. Three times the difference of x and 2 is greater than -21 .



29. The sum of $5x$ and $8x$ is less than the sum of $4x$ and 27 .



- 30. Greeting Cards** Your school club is making greeting cards to raise money for a trip. You spend \$60 on supplies and plan to sell the cards for \$2 each.
- Write an inequality that gives the possible numbers c of cards you need to sell in order for the profit to be positive.
 - What are the possible numbers of cards you need to sell in order for the profit to be positive?

