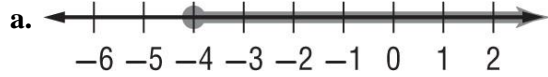


5-1 Practice

Solving Inequalities by Addition and Subtraction

Match each inequality with its corresponding graph.

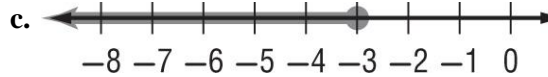
1. $-8 \geq x - 15$



2. $4x + 3 < 5x$



3. $8x \geq 7x - 4$

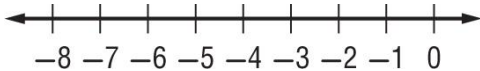


4. $12 + x \leq 9$



Solve each inequality. Check your solution, and then graph it on a number line.

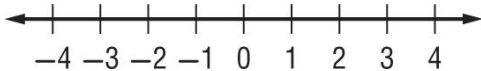
5. $r - (-5) > -2$



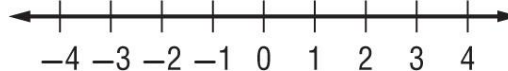
6. $3x + 8 \geq 4x$



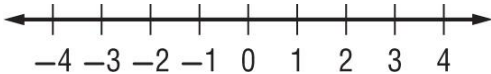
7. $n - 2.5 \geq -5$



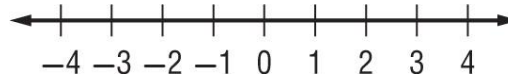
8. $1.5 < y + 1$



9. $z + 3 > \frac{2}{3}$



10. $\frac{1}{2} \leq c - \frac{3}{4}$



Define a variable, write an inequality, and solve each problem. Check your solution.

11. The sum of a number and 17 is no less than 26.

12. Twice a number minus 4 is less than three times the number.

13. Twelve is at most a number decreased by 7.

14. Eight plus four times a number is greater than five times the number.

15. **ATMOSPHERIC SCIENCE** The troposphere extends from the Earth's surface to a height of 6-12 miles, depending on the location and the season. If a plane is flying at an altitude of 5.8 miles, and the troposphere is 8.6 miles deep in that area, how much higher can the plane go without leaving the troposphere?

16. **EARTH SCIENCE** Mature soil is composed of three layers, the uppermost being topsoil. Jamal is planting a bush that needs a hole 18 centimeters deep for the roots. The instructions suggest an additional 8 centimeters depth for a cushion. If Jamal wants to add even more cushion, and the topsoil in his yard is 30 centimeters deep, how much more cushion can he add and still remain in the topsoil layer?

5-2 Practice

Solving Inequalities by Multiplication and Division

Match each inequality with its corresponding statement.

- | | |
|--------------------------|---|
| 1. $-4n \geq 5$ | a. Negative four times a number is less than five. |
| 2. $\frac{4}{5}n > 5$ | b. Four fifths of a number is no more than five. |
| 3. $4n \leq 5$ | c. Four times a number is fewer than five. |
| 4. $\frac{4}{5}n \leq 5$ | d. Negative four times a number is no less than five. |
| 5. $4n < 5$ | e. Four times a number is at most five. |
| 6. $-4n < 5$ | f. Four fifths of a number is more than five. |

Solve each inequality. Check your solution.

- | | | | |
|------------------------------|--------------------------|-----------------------------|------------------------------|
| 7. $-\frac{\alpha}{5} < -14$ | 8. $-13h \leq 52$ | 9. $\frac{b}{16} \geq -6$ | 10. $39 > 13p$ |
| 11. $\frac{2}{3}n > -12$ | 12. $-\frac{5}{9}t < 25$ | 13. $-\frac{3}{5}m \leq -6$ | 14. $\frac{10}{3}k \geq -10$ |
| 15. $-3b \leq 0.75$ | 16. $-0.9c > -9$ | 17. $0.1x \geq -4$ | 18. $-2.3 < \frac{j}{4}$ |
| 19. $-15y < 3$ | 20. $2.6v \geq -20.8$ | 21. $0 > -0.5u$ | 22. $\frac{7}{8}f \leq -1$ |

Define a variable, write an inequality, and solve each problem. Check your solution.

23. Negative three times a number is at least 57.
24. Two thirds of a number is no more than -10 .
25. Negative three fifths of a number is less than -6 .
26. **FLOODING** A river is rising at a rate of 3 inches per hour. If the river rises more than 2 feet, it will exceed flood stage. How long can the river rise at this rate without exceeding flood stage?
27. **SALES** Pet Supplies makes a profit of \$5.50 per bag on its line of natural dog food. If the store wants to make a profit of no less than \$5225 on natural dog food, how many bags of dog food does it need to sell?