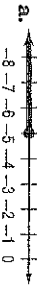


## Skills Practice

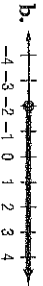
### Solving Inequalities by Addition and Subtraction

Match each inequality to the graph of its solution.

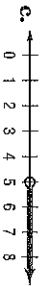
1.  $x + 11 > 16$



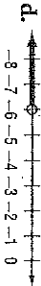
2.  $x - 6 < 1$



3.  $x + 2 \leq -3$



4.  $x + 3 \geq 1$

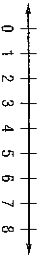


5.  $x - 1 < -7$

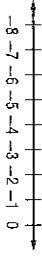


Solve each inequality. Check your solution, and then graph it on a number line.

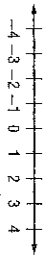
6.  $d - 5 \leq 1$



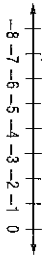
8.  $a - 7 > -13$



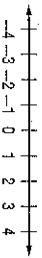
10.  $4 \geq h + 3$



12.  $-2 \geq x + 4$



13.  $2y < y + 2$



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

14. A number decreased by 10 is greater than  $-5$ .

15. A number increased by 1 is less than 9.

## 5-2 Skills Practice

### Solving Inequalities by Multiplication and Division

Match each inequality with its corresponding statement.

1.  $3n < 9$

a. Three times a number is at most nine.

2.  $\frac{1}{3}n \geq 9$

b. One third of a number is no more than nine.

3.  $3n \leq 9$

c. Negative three times a number is more than nine.

4.  $-3n > 9$

d. Three times a number is less than nine.

5.  $\frac{1}{3}n \leq 9$

e. Negative three times a number is at least nine.

6.  $-3n \geq 9$

f. One third of a number is greater than or equal to nine.

Solve each inequality. Check your solution.

7.  $14g > 56$

8.  $11w \leq 77$

9.  $20b \geq -120$

10.  $-8r < 16$

11.  $-15p \leq -90$

12.  $\frac{x}{4} < 9$

13.  $\frac{2}{9} \geq -15$

14.  $-\frac{2}{7} > -9$

15.  $-\frac{t}{12} \geq 6$

16.  $5z < -90$

17.  $-13m > -26$

18.  $\frac{k}{5} \leq -17$

19.  $-y < 36$

20.  $-16c \geq -224$

21.  $-\frac{h}{10} \leq 2$

22.  $12 > \frac{d}{12}$

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

23. Four times a number is greater than  $-48$ .

24. One eighth of a number is less than or equal to 3.

**5-3 Skills Practice****Solving Multi-Step Inequalities**

Justify each indicated step.

1.  $\frac{3}{4}t - 3 \geq -15$

$$\frac{3}{4}t - 3 + 3 \geq -15 + 3 \quad \text{a. } \underline{\quad ? \quad}$$

$$\frac{3}{4}t \geq -12$$

$$\frac{4}{3} \left( \frac{3}{4} \right) t \geq \frac{4}{3}(-12) \quad \text{b. } \underline{\quad ? \quad}$$

$$t \geq -16$$

2.  $5(k + 8) - 7 \leq 23$

$$5k + 40 - 7 \leq 23$$

$$5k + 33 \leq 23$$

a.  $\underline{\quad ? \quad}$

$$5k + 33 - 33 \leq 23 - 33$$

b.  $\underline{\quad ? \quad}$

$$5k \leq -10$$

$$\frac{5k}{5} \leq \frac{-10}{5}$$

$$k \leq -2$$

c.  $\underline{\quad ? \quad}$

a. Add 3 to each side.

b. Multiply each side by  $\frac{4}{3}$ .

a. Distributive Property

b. Subtract 33 from each side.

c. Divide each side by 5.

Solve each inequality. Check your solution.

3.  $-2b + 4 > -6$

4.  $3x + 15 \leq 21$

5.  $\frac{d}{2} - 1 \geq 3$

6.  $\frac{2}{5}a - 4 < 2$

7.  $-\frac{t}{5} + 7 > -4$

8.  $\frac{3}{4}j - 10 \geq 5$

9.  $-\frac{2}{3}f + 3 < -9$

10.  $2p + 5 \geq 3p - 10$

11.  $4k + 15 > -2k + 3$

12.  $2(-3m - 5) \geq -28$

13.  $-6(w + 1) < 2(w + 5)$

14.  $2(q - 3) + 6 \leq -10$

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

Check your solution.

15. Four more than the quotient of a number and three is at least nine.

16. The sum of a number and fourteen is less than or equal to three times the number.