

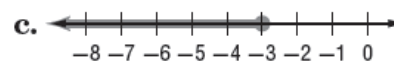
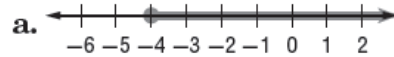
## 5-1

1.  $-8 \geq x - 15$  **b**

2.  $4x + 3 < 5x$  **d**

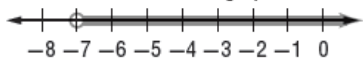
3.  $8x > 7x - 4$  **a**

4.  $12 + x \leq 9$  **c**

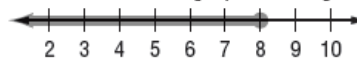


Solve each inequality. Check your solution, and then graph it on a number line.

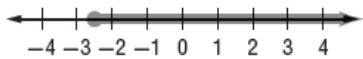
5.  $r - (-5) > -2$   $\{r | r > -7\}$



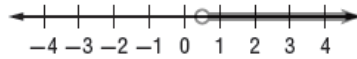
6.  $3x + 8 \geq 4x$   $\{x | x \leq 8\}$



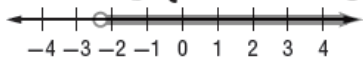
7.  $n - 2.5 \geq -5$   $\{n | n \geq -2.5\}$



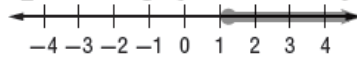
8.  $1.5 < y + 1$   $\{y | y > 0.5\}$



9.  $z + 3 > \frac{2}{3}$   $\{z | z > -2\frac{1}{3}\}$



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



11. The sum of a number and 17 is no less than 26.  
 $n + 17 \geq 26; \{n | n \geq 9\}$

12. Twice a number minus 4 is less than three times a number.  
 $2n - 4 < 3n; \{n | n > -4\}$

13. Twelve is at most a number decreased by 7.  
 $12 \leq n - 7; \{n | n \geq 19\}$

14. Eight plus four times a number is greater than five times a number.  
 $8 + 4n > 5n; \{n | n < 8\}$

## 5-2

1.  $-4n \geq 5$  **d**

2.  $\frac{4}{5}n > 5$  **f**

3.  $4n \leq 5$  **e**

4.  $\frac{4}{5}n \leq 5$  **b**

5.  $4n < 5$  **c**

6.  $-4n < 5$  **a**

Solve each inequality. Check your solution.

- |  |  |   |  |
|--|--|---|--|
| 7. $-\frac{a}{5} < -14$<br>$\{a \mid a > 70\}$   | 8. $-13h \leq 52$<br>$\{h \mid h \geq -4\}$      | 9. $\frac{b}{16} \geq -6$<br>$\{b \mid b \geq -96\}$  | 10. $39 > 13p$<br>$\{p \mid p < 3\}$                           |
| 11. $\frac{2}{3}n > -12$<br>$\{n \mid n > -18\}$ | 12. $-\frac{5}{9}t < 25$<br>$\{t \mid t > -45\}$ | 13. $-\frac{3}{5}m \leq -6$<br>$\{m \mid m \geq 10\}$ | 14. $\frac{10}{3}k \geq -10$<br>$\{k \mid k \geq -3\}$         |
| 15. $-3b \leq 0.75$<br>$\{b \mid b \geq -0.25\}$ | 16. $-0.9c > -9$<br>$\{c \mid c < 10\}$          | 17. $0.1x \geq -4$<br>$\{x \mid x \geq -40\}$         | 18. $-2.3 < \frac{j}{4}$<br>$\{j \mid j > -9.2\}$              |
| 19. $-15y < 3$<br>$\{y \mid y > -\frac{1}{5}\}$  | 20. $2.6v \geq -20.8$<br>$\{v \mid v \geq -8\}$  | 21. $0 > -0.5u$<br>$\{u \mid u > 0\}$                 | 22. $\frac{7}{8}f \leq -1$<br>$\{f \mid f \leq -\frac{8}{7}\}$ |

23. Negative three times a number is at least 57.  $-3n \geq 57$ ;  $\{n \mid n \leq -19\}$
24. Two thirds of a number is no more than  $-10$ .  $\frac{2}{3}n \leq -10$ ;  $\{n \mid n \leq -15\}$
25. Negative three fifths of a number is less than  $-6$ .  $-\frac{3}{5}n < -6$ ;  $\{n \mid n > 10\}$
- 

### 5-3

2.  $2(2h + 2) < 2(3h + 5) - 12$

$4h + 4 < 6h + 10 - 12$  a. ?

$4h + 4 < 6h - 2$

$4h + 4 - 6h < 6h - 2 - 6h$  b. ?

$-2h + 4 < -2$

$-2h + 4 - 4 < -2 - 4$  c. ?

$-2h < -6$

$\frac{-2h}{-2} > \frac{-6}{-2}$  d. ?

$h > 3$

a. Distributive Property

b. Subtract  $6h$  from each side.

c. Subtract 4 from each side.

d. Divide each side by  $-2$  and change  $<$  to  $>$ .

4.  $4u - 6 \geq 6u - 20$

$\{u \mid u \leq 7\}$

6.  $\frac{w + 3}{2} < -8$   $\{w \mid w < -19\}$

8.  $h \leq \frac{6h + 3}{5}$   $\{h \mid h \geq -3\}$

10.  $3r + 2(4r + 2) \leq 2(6r + 1)$   $\{r \mid r \geq 2\}$

12. A number is less than one

$n, \frac{3n + 4}{4}; \{n \mid n < 4\}$