

Section 3.7

Exercises

Graph each on the real number line.

1. $x \leq 5$
2. $x < 8$
3. $x > -7$
4. $x > -1$
5. $-3 \leq x < 4$
6. $0 < x < 10$
7. $2 \leq x < 7$
8. $-2 < x \leq 2$

Solve each inequality. Graph the solution on a real number line.

9. $2x < 18$
10. $25 > 5x$
11. $-4x < 20$
12. $-6x \geq 36$
13. $\frac{x}{4} > 9$
14. $\frac{-x}{2} \leq 4$
15. $7x - 1 \leq 13$
16. $3x + 5 \geq 17$
17. $4x - 1 < 2x + 7$
18. $8 - x > 6 - 3x$
19. $5(2x + 8) \leq 14$
20. $2(4 - x) > 7$
21. $2 \leq x + 1 < 5$
22. $-5 \leq -x \leq 8$
23. $\frac{3}{4} < \frac{x-1}{8} \leq 1$
24. $-5 \leq \frac{2x+3}{3} \leq 2$

For each problem, define a variable and write an inequality. Then solve the inequality to help find the answer to the problem.

25. Suppose you have \$75 to spend on school supplies. You need to

- purchase a calculator that costs \$20, and the only other supplies that you need are notebooks, which cost \$4.99 each. How many notebooks can you buy with the money you have?
26. Suppose you have \$350 budgeted for car rental during your vacation. The rental plan has a weekly cost of \$199 to rent the car and then a mileage charge of \$0.30 per mile driven. How many miles can you drive without going over your budget?
 27. A one-pound loaf of bread costs a baker \$2.11 to bake, and he sells it for \$4 per loaf. He estimates that he makes a profit of between \$400 and \$600 each day on the bread. How many loaves of the bread does he sell per week?
 28. Joey wants to make a B in his math class, so his average needs to be between 79.5 and 89.4. His average is based only on his five test grades. He has grades of 84, 79, 82, and 78 on the first four tests. What does he need to make on Test 5 so that his average will be in the B range?