Practice B
For use with pages 50–58

Decide whether the number is a solution of the equation.

1. $|2x + 3| = 7; 2$ 2. $|3x - 5| = 2; -1$ 3. $|2x - 7| = 3; 2$

4. $|4 - 3x| = 10; 2$ 5. $\left|\frac{1}{3}x + 3\right| = 6; -9$ 6. $\left|2 - \frac{1}{2}x\right| = 5; -6$

Solve the equation.

7. $|x - 3| = 5$ 8. $|2x + 6| = 12$ 9. $|3x - 3| = 8$

10. $|1 - 2x| = 9$ 11. $\left|\frac{2}{3}x + 2\right| = 0$ 12. $|9x - 2| = 7$

13. $|2x - 3| = 3$ 14. $\left|1 - \frac{1}{5}x\right| = 3$ 15. $|5 - 6x| = 7$

Solve the inequality.

16. $|x - 3| < 8$ 17. $|2x - 3| \geq 5$ 18. $|3 - x| \leq 3$

19. $|x + 7| > 3$ 20. $|4x - 7| < 9$ 21. $|4 - x| \leq 8$

22. $\left|\frac{1}{3}x + 4\right| > 1$ 23. $\left|4 - \frac{1}{2}x\right| \leq 6$ 24. $|2 - 3x| \geq \frac{2}{3}$

25. **Golfing** You plan on going golfing this weekend with a friend. You can either go to your favorite course which is 14 miles north of your house or to your friend's favorite course which is 14 miles south of your house. If distance north is considered positive and distance south is considered negative, write an absolute value inequality that represents all the distances you may be from your wherever you travel house.

26. **Garter Snake** The garter snake is a common species in North America. There are various subspecies and coloration schemes depending on the geographical location. Typical adult garter snakes range in length from 46 to 130 centimeters. Write an absolute value inequality that represents the range of lengths of adult garter snakes.

27. **Homework** On a slow weekday, you spend at least two hours on homework. On a busy weekday, you spend as much as five hours on homework. Write an absolute value inequality that represents the number of hours you spend doing homework on a typical weekday.

28. **African Elephant** The African elephant is the heaviest land animal on the planet. Their mass varies from 3600 to 6000 kilograms. Write an absolute value inequality that represents the mass range of the African elephant.