

Practice B

For use with pages 50–56

Decide whether the number is a solution of the equation.

1. $|5x - 4| = 6$; 2

2. $|3x + 4| = 8$; -4

3. $|2x - 3| = 7$; 2

4. $|5 - 3x| = 8$; 1

5. $|\frac{1}{2}x - 2| = 4$; -1

6. $|3 - \frac{1}{4}x| = 4$; 28

Solve the equation.

7. $|x + 3| = 5$

8. $|3x - 2| = 8$

9. $|2x + 6| = 14$

10. $|\frac{1}{2}t - 4| = 1$

11. $|11 - 3t| = 2$

12. $|7t + 3| = 4$

13. $|2x - 7| = 7$

14. $|1 - \frac{2}{3}x| = 9$

15. $|4 - 5x| = 6$

Solve the inequality.

16. $|x - 5| < 1$

17. $|3x + 2| \leq 7$

18. $|4 - x| < 5$

19. $|x + 8| \geq 3$

20. $|2x - 1| > 5$

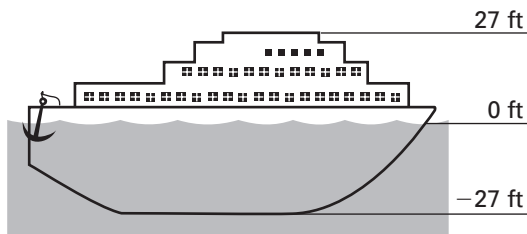
21. $|11 - 3x| > 4$

22. $|\frac{1}{2}x - 3| \leq 5$

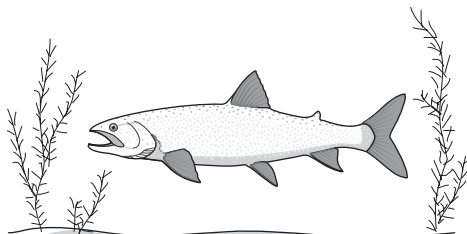
23. $|2 - \frac{1}{3}x| \geq 10$

24. $|4x - 1| < 3$

25. **Touring a Ship** The diagram below shows the water line of a large ship. The ship extends 27 feet above the water and 27 feet below the water. Suppose you toured the entire ship. Write an absolute value inequality that represents all the distances you could have been from the water line.



26. **Water Temperature** Most fish can adjust to a change in the water temperature of up to 15°F if the change is not sudden. Suppose a lake trout is living comfortably in water that is 58°F . Write an absolute value inequality that represents the range of temperatures at which the lake trout can survive.



27. **Hours of Daylight** According to the *Old Farmer's Almanac*, the hours of daylight in Fairbanks, Alaska, range from approximately $3\frac{1}{2}$ hours in mid-December to approximately 21 hours in mid-June. Write an absolute value inequality that represents the hours of daylight in Fairbanks.

28. **Elephant Longevity** On average an elephant will live from 30 to 40 years. Write an absolute value inequality that represents the typical ages of an elephant.