6.6 EXERCISES

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: The inequalities $|x| > 8$ and $x > 8$ *or* $x < -8$ are _?_.

2. **WRITING** *Describe* the difference between solving $|x| \le 5$ and solving $|x| \ge 5$.

EXAMPLES 1, 2, and 3
on pp. 398–399
for Exs. 3–24

SOLVING INEQUALITIES Solve the inequality. Graph your solution.

3. $|x| < 4$

4. $|y| \ge 3$

5. $|h| > 4.5$

6. $|p| < 1.3$

7. $|t| \le \frac{3}{5}$

8. $|j| \ge 1\frac{3}{4}$

9. $|d + 4| \ge 3$

10. $|b - 5| < 10$

11. $|14 - m| > 6$

12. $|2s - 7| < 1$

13. $|4c + 5| \ge 7$

14. $|9 - 4n| \le 5$

15. $5\left|\frac{1}{2}r + 3\right| > 5$

16. $\left|\frac{4}{3}s - 7\right| - 8 > 3$

17. $-3\left|2 - \frac{5}{4}u\right| \le -18$

18. $2|3w + 8| - 13 < -5$

19. $2\left|\frac{1}{4}v - 5\right| - 4 > 3$

20. $\frac{2}{7}|4f + 6| - 2 \ge 10$

21. **TAKS REASONING** Which inequality is equivalent to $x < 1$ *or* $x > 5$?

Ⓐ $|x + 8| - 2 > 10$

Ⓑ $3|6 - 2x| > 12$

Ⓒ $|5x + 9| < 10$

Ⓓ $|7 - 4x| - 9 < 8$

22. **WRITING** How can you tell whether an absolute value inequality is equivalent to a compound inequality with *and* or to a compound inequality with *or*?

ERROR ANALYSIS *Describe* and correct the error in solving the inequality.

23.
$$|x + 4| > 13$$
$$13 > x + 4 > -13$$
$$9 > x > -17$$
✗

24.
$$|x - 5| < 20$$
$$x - 5 < 20$$
$$x < 25$$
✗

TRANSLATING SENTENCES Write the verbal sentence as an inequality. Then solve the inequality and graph your solution.

25. The absolute deviation of x from 6 is less than or equal to 4.

26. The absolute deviation of $2x$ from -7 is greater than or equal to 15.

27. Three more than the absolute deviation of $-4x$ from 7 is greater than 10.

28. Four times the absolute deviation of x from 9 is less than 8.