6.5 EXERCISES

HOMEWORK KEY

○ = **WORKED-OUT SOLUTIONS** on p. WS1 for Exs. 11, 23, and 45

= **TAKS PRACTICE AND REASONING** Exs. 32, 44, 48, 49, 51, and 52

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: The equation $|x - 7| = 0.15$ is an example of a(n) ___?___.

2. **WRITING** Given $|x - 9| = 5$, describe the relationship between x, 9, and 5 using absolute deviation.

EXAMPLES 1, 2, and 3 on pp. 390–391 for Exs. 3–20

SOLVING EQUATIONS **Solve the equation.**

3. $|x| = 5$
4. $|y| = 36$
5. $|v| = 0.7$
6. $|w| = 9.2$
7. $|r| = \frac{1}{2}$
8. $|s| = \frac{7}{4}$
9. $|m + 3| = 7$
10. $|4n - 5| = 18$
11. $|3p + 7| = 4$
12. $|q + 8| = 2$
13. $|2d + 7| = 11$
14. $|f - 8| = 14$
15. $3|13 - 2t| = 15$
16. $4|b - 1| - 7 = 17$
17. $\frac{1}{3}|2c - 5| + 3 = 7$
18. $\frac{7}{4}|3j + 5| + 1 = 15$
19. $4|2k + 3| - 2 = 6$
20. $-3|5g + 1| - 6 = -9$

ERROR ANALYSIS ***Describe*** **and correct the error in solving the absolute value equation.**

21.
$$|x + 4| = 13$$
$$x + 4 = 13$$
$$x = 9$$

22.
$$|x - 6| = -2$$
$$x - 6 = -2 \text{ or } x - 6 = 2$$
$$x = 4 \text{ or } x = 8$$

EXAMPLE 4 on p. 392 for Exs. 23–31

SOLVING EQUATIONS **Solve the equation, if possible.**

23. $|x - 1| + 5 = 2$
24. $|y - 4| + 8 = 6$
25. $|m + 5| + 1.5 = 2$
26. $-4|8 - 5n| = 13$
27. $-3\left|1 - \frac{2}{3}v\right| = -9$
28. $-5\left|\frac{4}{5}w + 6\right| = -10$
29. $-10|14 - r| - 2 = -7$
30. $-2\left|\frac{1}{3}s - 5\right| + 3 = 8$
31. $-9|4p + 2| - 8 = -35$

32. **TAKS REASONING** Which number is a solution of $|4x - 1| + 2 = 1$?

Ⓐ $-\frac{1}{2}$ Ⓑ 0 Ⓒ 1 Ⓓ There is no solution.

EXAMPLE 5 on p. 392 for Exs. 33–36

USING ABSOLUTE DEVIATION **Find the values of x that satisfy the definition of absolute deviation for the given value and the given absolute deviation.**

33. Given value: 5; absolute deviation: 8
34. Given value: 20; absolute deviation: 5
35. Given value: −9.1; absolute deviation: 1.6
36. Given value: −3.4; absolute deviation: 6.7