

**Example 3** Solve  $3|x + 2| + 1 = 13$ .

$$3|x + 2| = 12$$

Subtract.

$$|x + 2| = 4$$

Divide.

$$x + 2 = 4 \text{ or } \overline{(x + 2)} = 4$$
$$x = 2 \text{ or } x = -6$$

Definition of absolute value.

Solve.

**The answer is  $x = 2$  or  $x = -6$ .**

## II. Practice

Solve. If there is no solution, write "no solution."

1.  $|x| = 8$

2.  $|x + 6| = 9$

3.  $|x - 3| = 8$

4.  $|x + 9| = 12$

5.  $|x - 1| = -4$

6.  $|4x| = 24$

7.  $\left|\frac{x}{3}\right| = 6$

8.  $|2x + 1| = 25$

9.  $2|x| = 80$

10.  $|3x + 1| = 10$

11.  $|x + 5| + 1 = 11$

12.  $2|x| - 10 = 100$

13.  $0.2|x| - 0.2 = 1.8$

14.  $|x + 9| - 5 = -5$

15.  $|x - 0.5| + 2 = 15$

16.  $\left|\frac{x}{4} + 2\right| = 7$

17.  $|3x + 0.1| = 6$

18.  $|3 - 2x| = 8$

19.  $4|x - 2| = 8$

20.  $|2x - 7| + 8 = 5$