

## 2-5 Practice

### Solving Equations Involving Absolute Value

Evaluate each expression if  $x = -1$ ,  $y = 3$ , and  $z = -4$ .

1.  $16 - |2z + 1|$

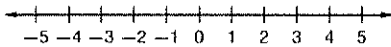
2.  $|x - y| + 4$

3.  $|-3y + z| - x$

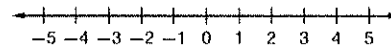
4.  $3|z - x| + |2 - y|$

Solve each equation. Then graph the solution set.

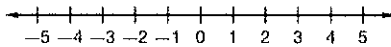
5.  $|2z - 9| = 1$



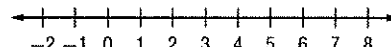
6.  $|3 - 2r| = 7$



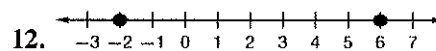
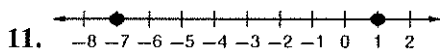
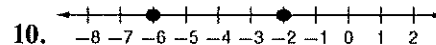
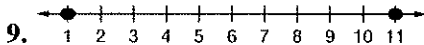
7.  $|3t + 6| = 9$



8.  $|2g - 5| = 9$



Write an equation involving absolute value for each graph.



13. **FITNESS** Taisha uses the elliptical cross-trainer at the gym. Her general goal is to burn 280 Calories per workout, but she varies by as much as 25 Calories from this amount on any given day. Write and solve an equation to find the maximum and minimum number of Calories Taisha burns on the cross-trainer.

14. **TEMPERATURE** A thermometer is guaranteed to give a temperature no more than  $1.2^{\circ}\text{F}$  from the actual temperature. If the thermometer reads  $28^{\circ}\text{F}$ , write and solve an equation to find the maximum and minimum temperatures it could be.

$$15) 4(-x + 4) = 12$$

$$16) -2 = -(n - 8)$$

$$17) -6(1 - 5v) = 54$$

$$18) 8 = 8v - 4(v + 8)$$

$$19) 10(1 + 3b) = -20$$

$$20) -5n - 8(1 + 7n) = -8$$

$$21) 8(4k - 4) = -5k - 32$$

$$22) -8(-8x - 6) = -6x - 22$$

$$23) 8(1 + 5x) + 5 = 13 + 5x$$

$$24) -11 - 5a = 6(5a + 4)$$