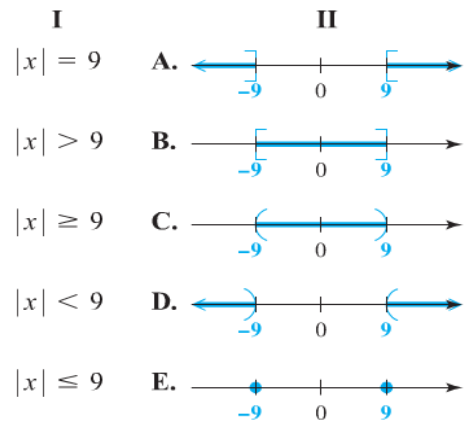


## 2.7 In-class Practice

1. Match each absolute value equation or inequality in Column I with the graph of its solution set in Column II.



2. How many solutions will  $|ax + b| = k$  have for each situation?

a)  $k = 0$       b)  $k > 0$       c)  $k < 0$

3. Explain when to use *and* and when to use *or* if you are solving an absolute value equation or inequality of the form  $|ax + b| = k$ ,  $|ax + b| < k$ , or  $|ax + b| > k$ , where  $k$  is a positive number.

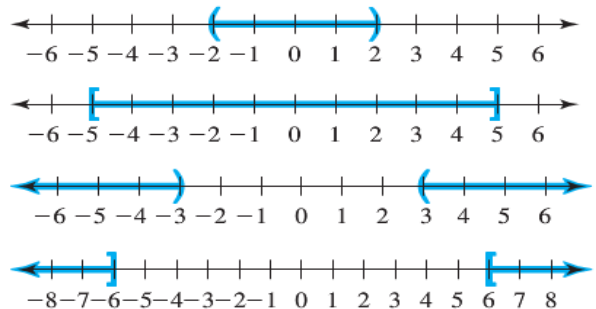
4. Solve each absolute value equation.

|   |  |   |
|---|--|---|
| a) $ 2x - 9  = 18$                                    | b) $\left 1 + \frac{3}{4}x\right  = 7$ | c) $ x + 5  - 2 = 12$   |
| d) $3 - \frac{1}{2}\left \frac{1}{2}x - 4\right  = 2$ | e) $ 3x - 1  =  3x + 9 $               | f) $\left x - \frac{1}{2}\right  = \left \frac{1}{2}x - 2\right $ |
| g) $ 7x + 4  = 0$                                     | h) $ 12t - 3  = -8$                    | i) $5 - \frac{ 3-2x }{3} = 4$                                     |

5. Solve each absolute value inequality and graph the solution set.

|                           |                           |                          |
|---------------------------|---------------------------|--------------------------|
| b) $ 4x + 1  < 21$        | b) $ -5x + 3  > 12$       | c) $ 5x + 1  \geq 21$    |
| d) $ -2x - 4  \geq 5$     | e) $ x - 2  - 3 \leq 4$   | f) $ x - 4  + 5 \geq 4$  |
| g) $ 10x + 7  + 3 < 1$    | h) $16 \leq  2x - 3  + 9$ | i) $7 -  3 - 2x  \geq 5$ |
| j) $2 y - 3  - 7 \leq -1$ |                           |                          |

6. Write an absolute value inequality whose solution set is shown by the graph.



7. Find an equivalent absolute value inequality.

a)  $-5 \leq y \leq 5$       b)  $x \leq -6$  or  $x \geq 6$

8. According to a Fox News survey, the presidential approval rating is 39% plus or minus 5 percentage points.

- a) In what range is the percentage of people who approve of the president?  
 b) Let  $x$  represent the actual percentage of people who approve of the president. Write an absolute value inequality for  $x$ .