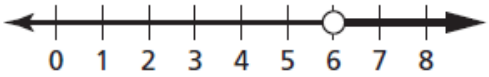
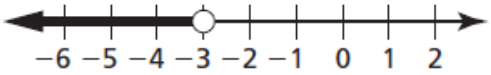
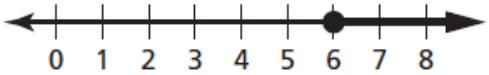
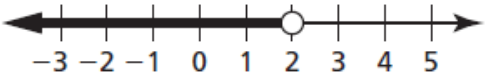
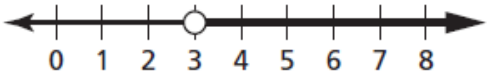
Write an inequality that is represented by the graph.

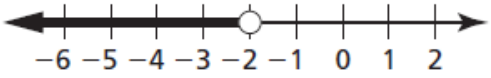
1. 

2. 

3. 

4. 

5. 

6. 

Solve the equation. Check your solution.

1. $6 = \frac{z}{-5} + 4$

2. $\frac{h-5}{6} = 1$

3. $9y - 2y = 42$

4. $15v - 9v - 15 = 81$

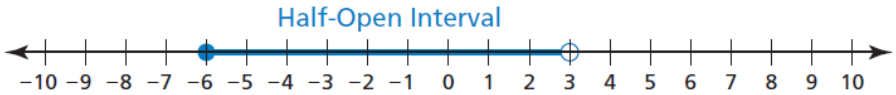
5. $4c + 9 - c = -15$

Essential Question

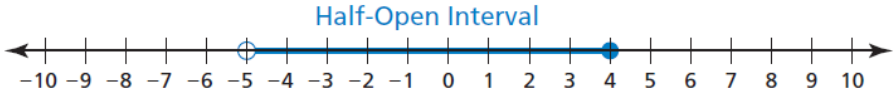
How can you use inequalities to describe intervals on the real number line?

Work with a partner. In parts (a)– (d), use two inequalities to describe the interval.

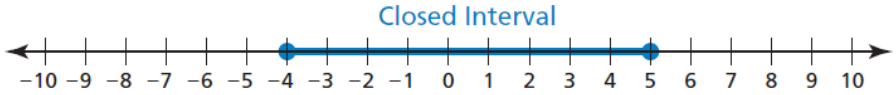
a.



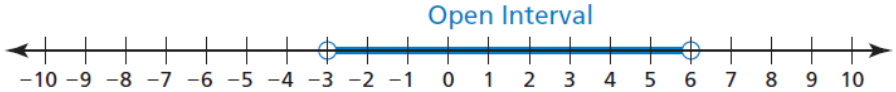
b.



c.



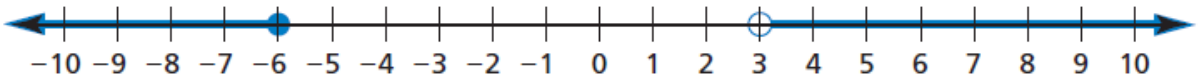
d.



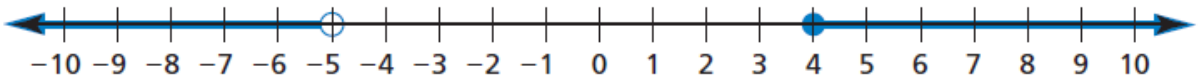
e. Do you use “and” or “or” to connect the two inequalities in parts (a)–(d)? Explain.

Work with a partner. In parts (a)– (d), use two inequalities to describe the interval.

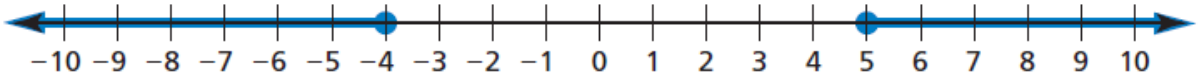
a.



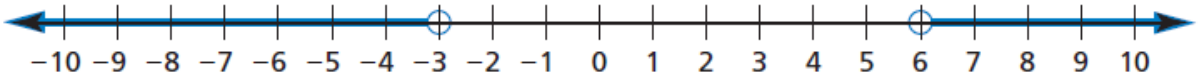
b.



c.



d.



e. Do you use “and” or “or” to connect the two inequalities in parts (a)–(d)? Explain.

Write each sentence as an inequality. Graph each inequality.

a. A number x is greater than -8 and less than or equal to 4.

b. A number y is at most 0 or at least 2.

Write the sentence as an inequality. Graph the inequality.

1. A number *d* is more than 0 and less than 10.

2. A number *a* is fewer than −6 or no less than −3.

Solve each inequality. Graph each solution.

a. $-4 < x - 2 < 3$

b. $-3 < -2x + 1 \leq 9$

Solve $3y - 5 < -8$ *or* $2y - 1 > 5$. Graph the solution.

Solve the inequality. Graph the solution.

3. $5 \le m + 4 < 10$

4. $-3 < 2k - 5 < 7$

5. $4c + 3 \le -5$ *or* $c - 8 > -1$

6. $2p + 1 < -7$ *or* $3 - 2p \le -1$

Electrical devices should operate effectively within a specifi ed temperature range. Outside the operating temperature range, the device may fail.

a. Write and solve a compound inequality that represents the possible operating temperatures (in degrees Fahrenheit) of the smartphone.

b. Describe one situation in which the surrounding temperature could be below the operating range and one in which it could be above.

7. Write and solve a compound inequality that represents the temperature rating (in degrees Fahrenheit) of the winter boots.

Exit Ticket: Solve and graph.

a. $-1 \leq 2x + 3 \leq 7$

b. $4x + 1 \leq -11$ *or* $3x - 4 \geq 5$