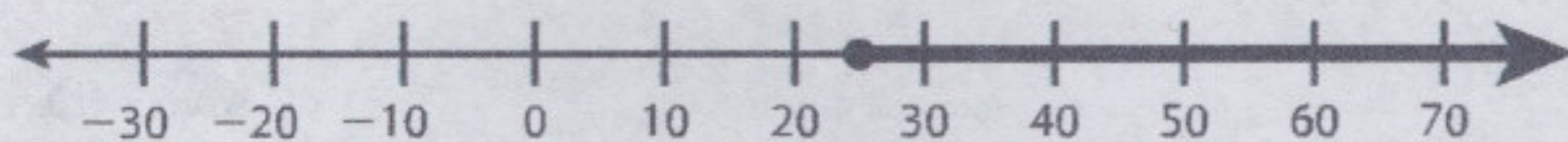


Solve Inequalities

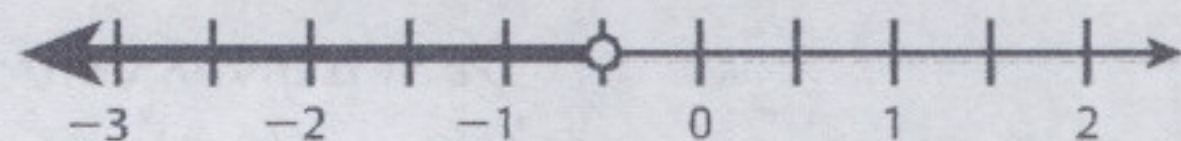
Solve the problems.

1 Write an inequality for each graph.

a.



b.



What does the direction of the arrow on the shaded line tell you about the inequality?



2 Samuel wants to eat at least 15 grams of protein each day. Let x represent the amount of protein he should eat each day to meet his goal. Which inequality represents this situation?

A $x < 15$

C $x \leq 15$

B $x > 15$

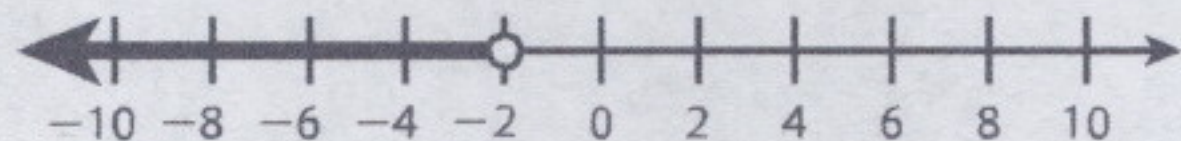
D $x \geq 15$

Karli chose **B** as the correct answer. How did she get that answer?

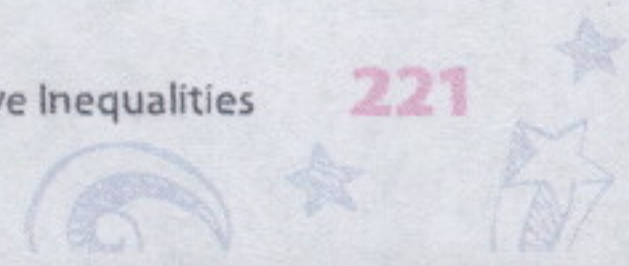
Would a graph for this situation have an open circle or a closed circle?



3 The graph shows information about the low temperature in a particular city in degrees Celsius each day during one week in January. Write an inequality for this situation. Then write in words what the graph shows about the temperature readings.

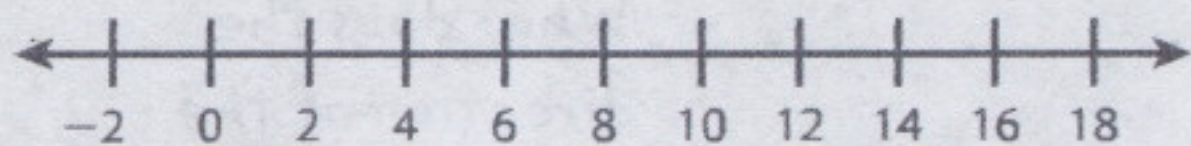


What are some words that describe a situation in which the shaded line on the graph points left?



Solve.

- 4 Kalista practices the piano for at least 8 hours each week. Write an inequality for this situation. Then graph the solution on the number line. _____



Does "at least" include 8 as a solution?



- 5 Which of these values is a solution to the inequality $x - 1 \geq 6$?

7 $3\frac{1}{2}$ 2.5 10

Show your work.

Does a given value for x make the inequality true or false?



Solution: _____

- 6 Consider the inequality $x > -0.75$. Tell whether each statement is *True* or *False*.

- a. -0.75 is a solution to the inequality. True False
- b. There are many solutions to this inequality. True False
- c. All of the solutions to the inequality are negative. True False
- d. The inequality $-0.75 < x$ is equivalent to the given inequality. True False
- e. -4.5 is a solution to the inequality. True False

How do you know whether a given value is a solution to the inequality?

