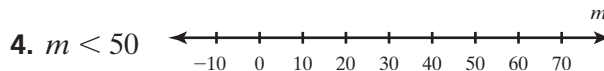# Practice 3-1

Graphing and Writing Inequalities

Graph the solution of each inequality on a number line.

1. $x \leq 3$

$$\xleftarrow{\quad} \begin{array}{ccccccccc} & & & & & & & & x \\ -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 \end{array} \xrightarrow{\quad}$$

2. $t > 1$

$$\xleftarrow{\quad} \begin{array}{ccccccccc} & & & & & & & & t \\ -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 \end{array} \xrightarrow{\quad}$$

3. $q \geq -10$

$$\xleftarrow{\quad} \begin{array}{ccccc} & & & & q \\ -20 & -10 & 0 & 10 & 20 \end{array} \xrightarrow{\quad}$$

4. $m < 50$

$$\xleftarrow{\quad} \begin{array}{ccccccccc} & & & & & & & & m \\ -10 & 0 & 10 & 20 & 30 & 40 & 50 & 60 & 70 \end{array} \xrightarrow{\quad}$$
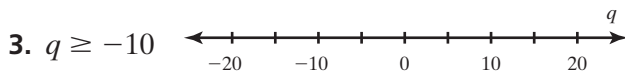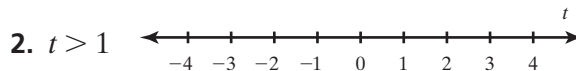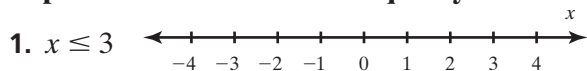
For each inequality, tell whether the number in bold is a solution.

5. $x < 7; \mathbf{7}$ _____

6. $p > -3; \mathbf{3}$ _____

7. $k \geq 5; \mathbf{0}$ _____

8. $3z \leq 12; \mathbf{4}$ _____

9. $n - 5 > 3; \mathbf{6}$ _____

10. $2g + 8 \geq 3; \mathbf{-1}$ _____

Write an inequality for each graph.

11. _____

$$\xleftarrow{\quad} \begin{array}{ccccccccc} & & & & & & & & x \\ -4 & -3 & -2 & -1 & 0 & 1 & 2 & 3 & 4 \end{array} \xrightarrow{\quad}$$

12. _____

$$\xleftarrow{\quad} \begin{array}{ccccccccc} & & & & & & & & z \\ -10 & 0 & 10 & 20 & 30 & 40 & 50 & 60 & 70 \end{array} \xrightarrow{\quad}$$
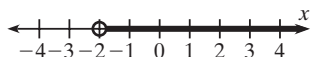
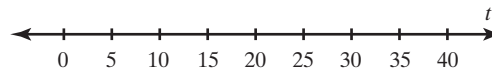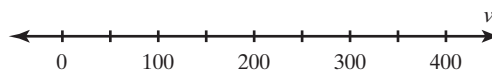**Write an inequality for each statement. Graph each solution on the number line shown.**

13. You can walk there in 20 minutes or less.

_____

$$\xleftarrow{\quad} \begin{array}{ccccccccc} & & & & & & & & t \\ 0 & 5 & 10 & 15 & 20 & 25 & 30 & 35 & 40 \end{array} \xrightarrow{\quad}$$

14. Each prize is worth over $150.

_____

$$\xleftarrow{\quad} \begin{array}{ccccc} & & & & v \\ 0 & 100 & 200 & 300 & 400 \end{array} \xrightarrow{\quad}$$

15. A species of catfish, *malapterurus electricus*, can generate up to 350 volts of electricity.

a. Write an inequality to represent the amount of electricity generated by the catfish.

_____

b. Draw a graph of the inequality you wrote in **a.**

$$\xleftarrow{\quad} \begin{array}{ccccc} & & & & e \\ 0 & 100 & 200 & 300 & 400 \end{array} \xrightarrow{\quad}$$