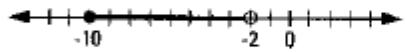
1. A *set* is a collection of objects called members or **elements**

In 2–7, write *W* if the number is a whole number, *I* if the number is an integer, and *R* if the number is a real number. List all terms that apply.

2. -4 **I, R**
3. 17.3 **R**
4. $\sqrt{15}$ **R**
5. $\frac{2}{3}$ **R**
6. 266 **W, I, R**
7. -7.886 **R**

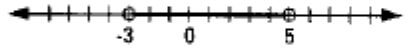
8. Suppose you are asked to find the whole numbers that are in the solution set of the inequality $x < 7.6$.
   a. What is the domain of x? **set of whole numbers**
   b. What is the solution set for the inequality? **{0, 1, 2, 3, 4, 5, 6, 7}**

In 9–14, tell if the interval is open, closed, or neither.

9. 

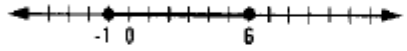
neither

10. $9 > s > -7$ **open**

11. 

open

12. $4 \leq d \leq 14.6$ **closed**

13. 

closed

14. $3 \geq u > -3$ **neither**

Properties Objective E: Read and interpret set language and notation.

In 15–18, name two elements in each set. **Samples are given.**

15. set of planets **Pluto, Mars**
16. set of integers **7, -11**
17. {-4, 10, 13, -8.9} **10, -8.9**
18. {cat, rat, sat} **cat, rat**

19. Which of the following sets are equal?
   A = {6, 9.4} B = {9.4, 6, 7}
   C = {6, 9.4, 7, 5} D = {7, 6, 9.4} **B and D**

Uses Objective I: In real situations, choose a reasonable domain for a variable.

In 20–23, *multiple choice*. Which is the most reasonable domain for the variable?

(a) set of whole numbers **(b) set of integers**
(c) set of positive real numbers **(d) set of real numbers**

20. v = the number of registered voters in an election **a**
21. t = the temperature at noon in Toronto **b**
22. g = the amount of gas in a car's gas tank **c**
23. a = altitude with respect to sea level **d**

Representations Objective L: Draw and interpret graphs of solution sets to inequalities.

24. Explain how the graph of $n < 3$ differs from the graph of $n \leq 3$.
Sample: for $n < 3$, an open circle at 3; for $n \leq 3$, a closed circle at 3