

- 1) irrational numbers
- 2) $\{\dots, -3, -2, -1\}$
- 3) Counting
- 4) Integers
- 5) line
- 6) empty
- 7) Whole
- 8) rational
- 9) $\sqrt{3}$

51. -2, 13
- a. positive integers. = 13
 - b. rational numbers. = -2, 13
 - c. real numbers. = -2, 13
 - d. whole numbers. = 13

- 17) True - 7 is a natural number
- 19) False - 7 is a whole number
- 21) False $\frac{1}{3}$ is an integer
- 23) True 0.57 is a rational number
- 25) False $\sqrt{2}$ is a rational number
- 27) True $-\frac{1}{5}$ is a rational number
- 29) True $\sqrt{5}$ is an irrational number
- 31) False every whole number is a natural number
- 33) True - The symbol \emptyset is used to represent the empty set
- 35) False - Every real number is a rational number
- 37) True - Every rational number is a real number
- 39) True - Some real numbers are not rational numbers
- 41) false - Every negative number is a negative integer
- 43) True - The symbol \mathbb{R} is used to represent the set of real numbers
- 45) False - every number greater than zero is a positive integer.
- 47) True when the negative integers, the positive integers and 0, are combined the integers are formed.
- 49)
 - a. 3, 77 - positive integers
 - b. 0, 3, 77 - whole numbers
 - c. -2, 0, 3, 77 - integers.
 - d. $-\frac{5}{7}, 0, -2, 3, \frac{1}{4}, 1.63, 77$ - rational numbers
 - e. $\sqrt{3}, \sqrt{7}$ - irrational numbers
 - f. $-\frac{5}{7}, 0, -2, 3, \frac{1}{4}, \sqrt{7}, -\sqrt{3}, 1.63, 77$ - real numbers