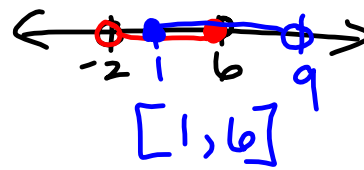


Identify the following sets by name: $\mathbb{R} = \text{reals}$

- The set of all non-terminating, non-repeating decimals is called irrational #'s
- The set of counting numbers is called natural #'s \mathbb{N}
- The set of all terminating or repeating decimals is called rational #'s \mathbb{Q}
- The set containing no elements is called empty set \emptyset
- The set of all positive and negative whole numbers is called integers \mathbb{Z} *plus 0*

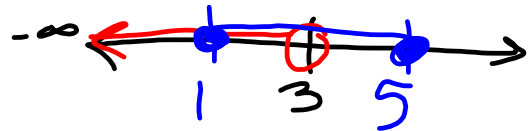
11. State the intersection in interval notation:

$$\{x | -2 < x \leq 6\} \cap \{x | 1 \leq x < 9\}$$



12. State the union in set-builder notation:

$$(-\infty, 3) \cup [1, 5]$$



Given the following sets, determine the unions and intersections:

$$A = \{1, 2, 3, 4, 5\}, \quad B = \{1, 3, 5\}, \quad C = \{2, 4, 6\}$$

- $A \cap C = \{2, 4\}$
- $A \cup B = A$
- $B \cap C = \emptyset$
- $A \cap B = B$
- $A \cup C = \{1, 2, 3, 4, 5, 6\}$

