

SETS**EQUAL SETS****EXERCISE**

- Q.1** Which of the following two sets equal?
- (a) $\{1,2,3\}$ and $\{2,3,4\}$
 - (b) $\{1,3,5\}$ and $\{1,3,5,7\}$
 - (c) $\{3,4,7\}$ and $\{7,4,3\}$
 - (d) $\{1,2,7\}$ and $\{2,7,1,4\}$
- Q.2** Let A be set of prime numbers less than 6 and B be the set of prime factors of 30. Set A and B are _____
- (a) Infinite
 - (b) Empty
 - (c) Singleton
 - (d) Equal
- Q.3** $A = \{0\}$ and $B = \{\}$. Are sets A and B are equal?
- (a) True
 - (b) False
- Q.4** Let X be the set of letters of the word ALLOY and Y be the set of letters of the word LOYAL. Are the sets equal?
- (a) True
 - (b) False
- Q.5** Which of the sets are equal?
- $X = \{x : x-4=0 \text{ and } x \text{ is a natural number}\},$
- $Y = \{x : x^2=16 \text{ and } x \text{ is a natural number}\},$
- $Z = \{x : x>4 \text{ and } x<16, x \text{ is a natural number}\}$
- (a) X and Y
 - (b) Y and Z
 - (c) X and Z
 - (d) X, Y and Z

Q.6 Which of the following sets are equal?

$X = \{x : x \text{ is letter of word LIFE}\},$

$Y = \{x : x \text{ is letter of the word WIFE}\},$

$Z = \{x : x \text{ is letter of the word FILE}\}$

(a) X and Y

(b) Y and Z

(c) X and Z

(d) X, Y and Z

Q.7 Which of the following sets are equal?

(a) $\{a, b, c, d\}$ and $\{d, c, b, a\}$

(b) $\{4, 8, 12, 16\}$ and $\{8, 12, 16, 18\}$

(c) $\{x : x \text{ is a multiple of } 10\}$ and $\{10, 20, 30\}$

(d) $\{2, 4, 6, 8\}$ and $\{x : x \text{ is an even number}\}$

Q.8 Which of the following sets are equal?

$X = \{1, -1\}, \quad Y = \{-1, 1\}, \quad Z = \{x : x \text{ is root of } x^2 - 1 = 0 \text{ and } x \text{ is an integer}\}$

(a) X and Y

(b) Y and Z

(c) X and Z

(d) X, Y and Z

Q.9 Equal sets _____ number of elements.

(a) Must have same

(b) May have same

(c) Can't have same

(d) Shouldn't have different

Q.10 If two sets have equal number of elements, then they _____

(a) Are equal

(b) Are not equal

(c) May be equal

(d) Are finite

Q.11 If $A = \{1, 10, 15, 17\}$ and $B = \{1, 5, 7, 8\}$ then which of the following is the correct statement about A and B?

(a) "A" and "B" are equal sets

(b) "A" and "B" are equivalent sets

- (c) "A" and "B" are empty sets
- (d) "A" and "B" are infinite sets

Q.12 If $A = \{0\}$, $B = \{x: x \text{ is a non-negative root of } x^2 + 2x = 0\}$, $C = \{x: x > 10 \text{ and } x < 5\}$, $D = \{x: x^2 = 36\}$ then choose the correct option.

- (a) $A = C$
- (b) $A = D$
- (c) $B = C$
- (d) $A = B$

Q.13 If $A = \{1, 2, 3\}$ and $B = \{x \in \mathbb{R}: x^3 - 6x^2 + 11x - 6 = 0\}$ then A and B are equal sets?

- (a) True
- (b) False

Q.14 If $A = \{1, 2\}$ and $B = \{x \in \mathbb{R}: x^2 - 3x + 2 = 0\}$ then?

- (a) "A" and "B" are only equivalent sets and not equal
- (b) "A" and "B" are equal
- (c) "A" and "B" are not Equivalent
- (d) "A" and "B" are infinite sets

Q.15 Which of the following statements are correct?

- (a) Equal and Equivalent sets are actually the same
- (b) Equivalent sets have a different number of elements
- (c) Equal sets have the same elements
- (d) Two null sets are not equal

ANSWER KEY

- 1. (c)
- 2. (d)
- 3. (b)
- 4. (a)
- 5. (a)
- 6. (c)

7. (a)

8. (d)

9. (a)

10. (c)

11. (b)

12. (d)

13. (a)

14. (b)

15. (c)