

SETS**SETS & THEIR REPRESENTATION****EXERCISE**

- Q.1** Which set among the following is not achievable?
- (a) Honest persons
 - (b) Prime numbers up to 100
 - (c) Even numbers up to 100
 - (d) Letters forming the word SCHOOL
- Q.2** Which of the following does not constitute a set of letters from the word "PRINCIPAL"?
- (a) {P,R,I,N,C,A,L}
 - (b) {C,A,P,I,N,R,L}
 - (c) {P,R,I,N,C,I,P,A,L}
 - (d) {L,N,I,P,C,A,R}
- Q.3** Express the solution set of equation $x^2-3x+2=0$ in roster form.
- (a) {1,3}
 - (b) {2,4}
 - (c) {1,4}
 - (d) {1,2}
- Q.4** Express the set $\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}$ using set-builder form.
- (a) $\{x: x = \frac{n}{n+1} \text{ where } n \text{ is a natural number less than } 6\}$
 - (b) $\{x: x = \frac{n+1}{n+2} \text{ where } n \text{ is a natural number less than } 6\}$
 - (c) $\{x: x = \frac{n+1}{n} \text{ where } n \text{ is a natural number less than } 6\}$
 - (d) $\{x: x = \frac{n}{n+1} \text{ where } n \text{ is a natural number less than } 5\}$
- Q.5** Write the set integers, $\{x : x \text{ is an integer and } x^2-9=0\}$ in roster form.
- (a) {3}
 - (b) {-3}
 - (c) {3,-3}
 - (d) {9,3}

- Q.6** Express the set $\{x : x \text{ is a natural number and } x^2 - 9 = 0\}$ in roster form.
(a) $\{3\}$ (b) $\{-3\}$ (c) $\{3, -3\}$ (d) $\{9, 3\}$
- Q.7** Let $A = \{1, 2, 3, 4, 5\}$. Insert appropriate symbol in 2 _____ A.
(a) $=$ (b) $<$ (c) \in (d) \notin
- Q.8** Let $X = \{1, 2, 3, 4, 5, 6\}$. Insert appropriate symbol in 9 _____ X.
(a) $=$ (b) $<$ (c) \in (d) \notin
- Q.9** Which of the following is not a member of the set $\{x : x \text{ is a vowel in English alphabet}\}$?
(a) e (b) b (c) I (d) o
- Q.10** How many elements is in this set $\{x : x \text{ is a letter of word TRIGONOMETRY}\}$?
(a) 8 (b) 7 (c) 9 (d) 10
- Q.11** Find the solution set of the equation $x^2 + 3x + 2 = 0$ in roster form?
(a) $\{-1, 2\}$ (b) $\{-1, -2\}$ (c) $\{1, -2\}$ (d) $\{1, 2\}$
- Q.12** Which of the following correctly represents the set $\{x : x \text{ is a positive integer and } x^3 < 50\}$ in roster form?
(a) $\{0, 1, 2, 3, 4, 5\}$ (b) $\{-1, 1, 2, 3\}$ (c) $\{1, 2, 3\}$ (d) $\{0, 1, 2, 3\}$
- Q.13** Which of the following is the accurate representation of the set $A = \{1, 3, 5, 7, \dots\}$ in set builder form?
(a) $\{x : x = 2n \text{ where } n \in \mathbb{N}\}$ (b) $\{x : x = n^2 - 1 \text{ where } n \in \mathbb{N}\}$
(c) $\{x : x = 2n + 1 \text{ where } n \in \mathbb{N}\}$ (d) $\{x : x = 2n - 1 \text{ where } n \in \mathbb{N}\}$
- Q.14** Which statement is accurate for the set $A = \{1, 2, 3, 5, 7, 10\}$
(a) $0 \in A$ (b) $2 \in A$ (c) $3 \notin A$ (d) $5 \notin A$
- Q.15** Which of the following is not an example of a set?
(a) The collection of all whole numbers less than 200
(b) The collection of all boys in your class
(c) The collection of talented actors in Hollywood
(d) The collection of all books written by Chetan Bhagat

ANSWER KEY

1. (a)
2. (c)
3. (d)
4. (a)
5. (c)
6. (a)
7. (c)
8. (d)
9. (b)
10. (c)
11. (b)
12. (c)
13. (d)
14. (b)
15. (c)