

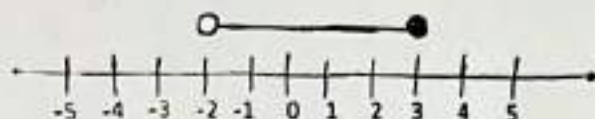


K R MANGALAM WORLD SCHOOL, GK II
MONDAY ASSESSMENT 2025 -26
CLASS XI MATHEMATICS
SET - 2

Time allowed: 1 Hours

Maximum Marks: 30

- 1) The elements of set A satisfy the property n^2 is divisible by $n + 1$, $n \in N, n < 10$ for their elements. The set A is: (1)
- a) $\{1,4,9\}$
b) $\{1,3,5,7,9\}$
c) $\{\phi\}$
d) $\{\}$
- 2) The given number line represent interval as subset of real numbers, select the correct option which represents this interval (1)



- a) $(-2,3]$
b) $(-2,3)$
c) $[-2,3]$
d) $[-2,3)$
- 3) If $A = (5,7)$ and $B = [6,8)$, then $A \cap B$ is : (1)
- a) $(5,6)$
b) $(7,8)$
c) $[6,7)$
d) $[6,8)$
- 4) Let $R = \{(x,y): x, y \in Z \text{ and } x \notin N, x^2 + y^2 = 25\}$. Which of the following does not belong to R (1)
- a) $(0,5)$
b) $(-5,0)$
c) $(-4,-3)$
d) $(-3,-4)$
- 5) If a set A has 4 elements and a set B has 5 elements, then the number of elements in $A \times B$ is (1)
- a) 20
b) 2^{20}

- c) 9
d) 32
- 6) Let $A = \{1, 2\}$ and $B = \{x, y, z\}$, then the number of relations that can be defined from A to B is (1)
- a) 6
b) 12
c) 32
d) 64
- 7) Two finite sets have m and n elements respectively. The total number of subsets of first set is 60 more than the total number of subsets of the second set. Find the values of m and n . (3)
- 8) Give example of 3 sets A , B and C such that number of elements in $A \cap B$ is 1, number of elements in $B \cap C$ is 2 and number of elements in $C \cap A$ is 3. (3)
- 9) Find $P(P(A))$ where $A = \{1\}$ (3)
- 10) Write down all the subsets of the set $\{3, 4, \{5\}\}$ (3)
- 11) Let A and B be sets. If $A \cap X = B \cap X = \phi$ and $A \cup X = B \cup X$ for some set X , show that $A = B$. (4)
- 12) Using Venn Diagrams prove that $(A \cap B)' = A' \cup B'$ (4)
- 13) Find the domain and range of $\sqrt{16 - x^2}$ (4)



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MONDAY ASSESSMENT 2025 -26
CLASS XI MATHEMATICS
SET - I

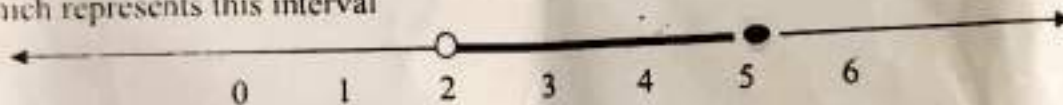
Maximum Marks: 30

Time allowed: 1 Hours

- 1) The elements of set A satisfy the property $\frac{n}{2n+1}, n \in N, n < 5$ for their elements. The element which does not belong to this set is: (1)

- a) $3/7$
- b) $4/9$
- c) $1/3$
- ☒ d) $5/11$

- 2) The given number line represent interval as subset of real numbers, select the correct option which represents this interval (1)



- ☒ a) $(2, 5]$
 - b) $(2, 5)$
 - c) $[2, 5]$
 - d) $[2, 5)$
- 3) If $A = (4, 6)$ and $B = [5, 7)$, then $A \cap B$ is: (1)

- ☒ a) $(4, 7)$
- b) $(6, 7)$
- c) $[5, 6)$
- d) $[5, 7)$

- 4) Let $R = \{(x, y) : x, y \in Z, y = 2x - 4\}$. If $(a, -2)$ and $(4, b^2)$ belong to R, then value of a and b are (1)

- a) $a = 1$ and $b = 0$
- b) $a = 0$ and $b = 3$
- ☒ c) $a = 1$ and $b = \pm 2$
- d) $a = -8, b = \pm 2$

- 5) If a set A has p elements and a set B has q elements, then the number of elements in $A \times B$ is (1)

- a) pq
- b) p^q

c) 2^{pq}

d) $p + q$

6) Let $A = \{1, 2, 3\}$ and $B = \{x, y\}$, then the number of functions that can be defined from A to B is (1)

a) 3

b) 6

c) 8

d) 12

7) Two finite sets have m and n elements respectively. The total number of subsets of first set is 56 more than the total number of subsets of the second set. Find the values of m and n . (3)

8) Give example of 3 sets A , B and C such that $A \cap B$, $B \cap C$ and $C \cap A$ are non-empty sets and $A \cap B \cap C = \phi$ (3)

9) Find $P(P(P(\emptyset)))$ (3)

10) Write down all the subsets of the set $\{1, 2, \phi\}$ (3)

11) Let A , B and C be sets such that $A \cup B = A \cup C$ and $A \cap B = A \cap C$, show that $B = C$. (4)

12) Using Venn Diagrams prove that $(A \cup B)' = A' \cap B'$ (4)

13) Find the domain and range of $\sqrt{9 - x^2}$ (4)