

Unit 3 - Week 1 : Unit 1

Course outline

How to access the portal

Week 0 Assignment 0

Week 1 : Unit 1

 Lecture 01 : Set Theory

 Lecture 02 : Set Operations

 Lecture 03 : Set Operations (contd.)

 Lecture 04 : Set of sets

 Lecture 05 : Binary relation

 Week 1 Lecture Note

 Quiz : Assignment 1

 Feedback for Week 1

Week 2 : Unit 2

Week 3 : Unit 3

Week 4 : Unit 4

Week 5 : Unit 5

Week 6 : Unit 6

Week 7 : Unit 7

Week 8 : Unit 8

Details Solution

Assignment 1

 The due date for submitting this assignment has passed.
 As per our records you have not submitted this assignment.

Due on 2019-09-11, 23:59 IST.

 1) Let $S = \{x \in \mathbb{Z} : x < 4\}$ and $T = \{x \in \mathbb{Z} : x \geq 4\}$. Then $S \cup T$ is _____. 1 point

- A. \mathbb{Z}
 B. \mathbb{R}
 C. \mathbb{N}
 D. $\{x \in \mathbb{Z} : x < 4\}$

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

a

 2) Let A, B, C are subsets of a universal set S . Then $(A \setminus C) \cup (B \setminus C) =$ _____. 1 point

- A. $(C \cup B) \setminus A$
 B. $(A \cup B) \setminus C$
 C. $(B \cap A) \setminus C$
 D. $(C \cup A) \setminus B$

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

b

 3) Let A, B are two subsets of a universal set S . Then $(A \cup B)^c =$ _____ and $(A \cap B)^c =$ _____ (Where A^c denotes the complement of a set A). 1 point

- A. $A \cap B, A \cup B$
 B. $A \cup B, A \cap B$
 C. $A^c \cup B^c, A^c \cap B^c$
 D. $A^c \cap B^c, A^c \cup B^c$

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

d

 4) Define the set $A = \{x \in \mathbb{R} : 0 < x < 4\}$ then the set $A \cap \mathbb{Z}$ is _____. 1 point

- A. ϕ
 B. $\{1\}$
 C. $\{1, 2\}$
 D. $\{1, 2, 3\}$

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

d

 5) Let A and B be two sets. Let A^c denote the complement of A . If $|A^c \cap B| = 12$, $|A \cap B^c| = 15$ and $|A \cap B| = 10$ then $|A \cup B|$ is _____ (where $|X|$ denotes the number of elements in the set X). 1 point

- A. 25
 B. 22
 C. 37
 D. 17

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

c

 6) Consider a set A with n number of elements. Then the number of elements in the power set $\mathcal{P}(A)$ is _____. 1 point

- A. n
 B. n^2
 C. 2^n
 D. n^n

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

c

 7) Let n be a positive integer. A relation ρ is defined on the set \mathbb{Z} by " $a\rho b$ if and only if $a - b$ is divisible by n " for $a, b \in \mathbb{Z}$. Then ρ is _____ relation on \mathbb{Z} . 1 point

- A. not a reflexive
 B. not a symmetric
 C. not an equivalence
 D. an equivalence

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

d

 8) Let A and B be two finite sets containing 2 and 3 elements respectively. Then the number of all distinct relations from A to B is _____. 1 point

- A. 16
 B. 32
 C. 64
 D. 8

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

c

 9) A relation ρ is defined on the set \mathbb{Z} by " $a\rho b$ if and only if $ab > 0$ " for $a, b \in \mathbb{Z}$. Then ρ is _____ relation on \mathbb{Z} . 1 point

- A. not a reflexive
 B. not a symmetric
 C. not a transitive
 D. an equivalence

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

a

 10) Let S be the set of all lines on a plane and ρ is defined on S by " $a\rho b$ if and only if a is perpendicular to b ", then ρ is _____ relation on \mathbb{Z} . 1 point

- A. a reflexive
 B. a symmetric
 C. a transitive relation
 D. an equivalence relation

- a
 b
 c
 d

 No, the answer is incorrect.
 Score: 0

Accepted Answers:

b