Test-60

# Question 1

Write the roaster form for .

# Question 2

Write the set builder form for .

2. None of these

# Question 3

If , then the solution set of the equation is a/an?

1. Empty Set
2. Finite Set
3. Infinite Set
4. None of these

# Question 4

In a class of 140 students numbered 1 to 140 , all even numbered students opted Mathematics course, those whose number is divisible by 3 opted Physics course and those whose number is divisible by 5 opted Chemistry course. Then the number of students who did not opt for any of the three courses is:

1. 102
2. 42
3. 10
4. 38

# Question 5

In a group of 70 persons, 37 like coffee, 52 like tea and each person likes at least one of the two drinks. How many like coffee but NOT tea?

1. 18
2. 17
3. 13
4. 16

# Question 6

In a class of 25 students, 12 have taken mathematics, 8 have taken mathematics and computer science. The number of students who have taken computer science but NOT mathematics is:

1. 13
2. 8
3. 4
4. 17

# Question 7

Let Then

1. Contains exactly two elements
2. Contains exactly four elements
3. Is an empty set
4. Contains exactly one element

# Question 8

In a mathematics class, 20 children had forgotten their rulers and 17 had forgotten their pencils, "Go and borrow them from someone at once", said the teacher, 24 children left the room, then how many children had forgotten both?

1. 11
2. 12
3. 13
4. 14

# Question 9

Which of the following is an empty set?

1. x ∈ R : x – 4x + 4
2. x ∈ R: x = 1
3. x ∈ R: x = - 1
4. None of these

# Question 10

If A, B and C are non-empty sets then the ’Intersection of sets is distributive over union of sets’ is represented as:

# Question 11

Match each of the set on the left described in the roster form with the same set on the right described in the set-builder form.

| (i) PRINCAL | (a) is a positive integer and is a divisor of 18 |  |  |
| --- | --- | --- | --- |
| (ii) | (b) is an integer and |  |  |
| (iii) | (c) is an integer and |  |  |
| (iv) | (d) is a letter of the word PRINCIPAL |  |  |

<!– DivTable.com –>

1. (i)-(d); (ii)-(c); (iii)-(a); (iv)-(b)
2. (i)-(a); (ii)-(b); (iii)-(c); (iv)-(d)
3. (i)-(c); (ii)-(d); (iii)-(b); (iv)-(a)
4. (i)-(d); (ii)-(a); (iii)-(b); (iv)-(c)

# Question 12

If then number of proper subsets of is:

1. None of these

# Question 13

Let A and B be two sets in the universal set . Then A - B is equal to

1. A - (A B)
2. A’  B
3. A  B
4. None of these

# Question 14

On a set of film 130 aliens descended as Extra Terrestrial Beings. 45 had two noses, 30 had three legs, 20 had four ears, 10 had two noses and three legs, 12 had three legs and four ears, 5 had two noses and four ears and 3 had all the three unusual features. How many were there without any of these unusual features?

1. 125
2. 35
3. 59
4. 43

# Question 15

What will be the value of (A B)’, if A and B are any two non-empty sets?

1. A’  B’
2. A’  B’
3. (A  B)’
4. None of these

# Question 16

If and are two events such that , then the incorrect statement amongst the following statements is:

1. and are equally likely

# Question 17

A marketing firm determined that, of 200 households surveyed, 80 used neither Brand A nor Brand B soap, 60 used only Brand A soap, and for every household that used both brands of soap, 3 used only Brand B soap. How many of the 200 households surveyed used both brands of soap?

1. 15
2. 20
3. 30
4. 40

# Question 18

How will be the ’Intersection of sets is distributive over union of sets’ is represented if  and are non-empty sets?

# Question 19

If , then the number of different ordered pairs that can be formed such that and is empty, is:

# Question 20

There are 40 students in a Chemistry class and 60 students in a Physics class. Find the number of students which are either in Physics class or Chemistry class if the two classes meet at the same hour.

1. 100
2. 150
3. 300
4. 425

# Question 21

Two finite sets have and elements. The total number of subsets of the first set is 56 more than the total number of subsets of the second set. Find the values of and .

1. 3, 6
2. 4, 7
3. 9, 5
4. 3, 8

# Question 22

If and , then which of the following is true?

1. <nobr>X∩Y</nobr><script id="MathJax-Element-3" type="math/tex">X Y</script>
2. <nobr>X⊂Y</nobr><script id="MathJax-Element-4" type="math/tex">X Y</script>
3. None of these

# Question 23

If and are any two non-empty sets, then prove that

1. None of these

# Question 24

If and then find and

1. (3,5) and (2,4,6)
2. (2,3,6) and (1,5)
3. (2,4,6,7) and 1,3,5,6
4. (2,4,6,8) and (1,3,5,7)

# Question 25

The Cartesian product of A = 1, 2 and B = a, b is

1. (1, a), (1, b), (2, a), (b, b)
2. (1, 1), (2, 2), (a, a), (b, b)
3. (1, a), (2, a), (1, b), (2, b)
4. (1, 1), (a, a), (2, a), (1, b)

# Question 26

One Hundred Twenty-five (125) aliens descended on a set of film as Extra Terrestrial Beings. 40 had two noses, 30 had three legs, 20 had four ears, 10 had two noses and three legs, 12 had three legs and four ears, 5 had two noses and four ears and 3 had all the three unusual features. How many  were there without any of these unusual features?

1. 5
2. 35
3. 80
4. None of these

# Question 27

In a class, 20 opted for Physics, 17 for Maths, 5 for both and 10 for other subjects. The class contains how many students?

1. 35
2. 42
3. 52
4. 60

# Question 28

If and are two sets such that has 21 elements, has 32 elements and has 11 elements, then find the number of elements in

1. 47
2. 42
3. 37
4. 52

# Question 29

A market research group conducted a survey of 1000 consumers and reported that 720 consumers like product A and 420 consumers like product B. Then, the least number of consumers that must have liked both the products is.

1. 140
2. 180
3. 210
4. 190

# Question 30

If A = 1, 2, 5 and B = 3, 4, 5, 9, then A - B is equal to

1. 1, 2
2. 1, 2, 5
3. 1, 2, 5, 9
4. None of these

# Question 31

The number of proper subsets of the set 1,2,3, is

1. 7
2. 8
3. 5
4. 6

# Question 32

Which of the following are true:

1. x: x - 1= 0, x = N = -1, 1
2. x: x - 4x + 3 = 0 = 1, 3
3. 1 and 2
4. x: x >3, x = 0

# Question 33

Let A be a finite set of size n the number of power set of AxA is

# Question 34

Let U = x : x ∈ N, x ≤ 9; A = x : x is an even number, 0 < x < 10; B = 2, 3, 5, 7. Write the set (A U B)’.

1. 1, 9
2. 2, 9
3. 1, 7
4. 1, 1

# Question 35

Which of the following sets are comparable?

1. and
2. and
3. and
4. None of these

# Question 36

In a committee, 50 people speak French, 20 speak Spanish and 10 speak both Spanish and French. How many speak atleast one of these two languages?

1. 50
2. 60
3. 55
4. 70

# Question 37

and then which of the following, represents

1. (3,5,6)
2. (1,2,3,4,5,6)
3. (1,2,3,5,6)
4. (1,2,3,4,5)

# Question 38

Let H.C.F. and Let . Then the sum of all the elements of is

# Question 39

If , and and is the setof all integers, then the number of subsets of the set is

# Question 40

Let is a 3 -digit number and for some If the sum of all the elements of the set is , then is equal to

# Question 41

A survey shows that of the persons working in an office like coffee, whereas like tea. If denotes the percentage of them, who like both coffee and tea, then cannot be:

1. 63
2. 36
3. 54
4. 38

# Question 42

In a school, there are three types of games to be played. Some of the students play two types of games, but none play all the three games. Which Venn diagrams can justify the above statement?image

1. P and Q
2. P and R
3. None of these
4. Q and R

# Question 43

Let be the set of integers. If and : , then the number of subsets of the set , is :

# Question 44

In a class of 140 students numbered 1 to 140 , all even numbered students opted Mathematics course, those whose number is divisible by 3 opted Physics course and those whose number is divisible by 5 opted Chemistry course. Then the number of students who did not opt for any of the three courses is

1. 1
2. 38
3. 102
4. 42

# Question 45

Let be a relation on defined by if and only if is divisible by 5 . Then is

1. Reflexive and symmetric but not transitive
2. Reflexive but neither symmetric not transitive
3. Reflexive, symmetric and transitive
4. Reflexive and transitive but not symmetric