

Discrete Mathematics Unit 1 MCQs

* Required

* This form will record your name, please fill your name.

1. Write set $\{1, 5, 15, 25, \dots\}$ in set-builder form. *
(1 Point)

- ☐ $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is a real number}\}$
- ☐ $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is a integer}\}$
- ☐ $\{x: \text{either } x=1 \text{ or } x=5n, \text{ where } n \text{ is an odd natural number}\}$
- ☐ $\{x: x=5n, \text{ where } n \text{ is a natural number}\}$

2. Convert set $\{x: x \text{ is a positive prime number which divides } 72\}$ in roster form. *
(1 Point)

- ☐ $\{2, 3, 5\}$
- ☐ $\{2, 3, 6\}$
- ☐ $\{2, 3\}$
- ☐ $\{\emptyset\}$
- ☐ Option 2

3. Express $\{x: x = n/(n+1), n \text{ is a natural number less than } 7\}$ in roster form. *
(1 Point)

- ☐ $\{1/2, 2/3, 4/5, 6/7\}$
- ☐ $\{1/2, 2/3, 3/4, 4/5, 5/6, 6/7, 7/8\}$
- ☐ $\{1/2, 2/3, 3/4, 4/5, 5/6, 6/7\}$
- ☐ Infinite set

4. What is the Cardinality of the Power set of the set $\{0, 1, 2\}$? *
(1 Point)

- ☐ 8
- ☐ 6
- ☐ 7
- ☐ 9

5. In Question number 6 How many American tourist visited none of the following three countries : Columbia Argentina and Brazil *
(1 Point)

- ☐ 7
- ☐ 5
- ☐ 2
- ☐ 9

6. In Question number 6 How many American tourists visited Brazil but not Argentina or Columbia *
(1 Point)

☐ 7

☐ 5

☐ 9

☐ 2

7. In Question number 15 How many students take Math, but not Biology or English? *
(2 Points)

☐ 17

☐ 32

☐ 7

☐ 12

8. Roll Number *

9. There are 100 students surveyed and asked which of the following subjects they take this semester : Mathematics , English or Biology. Below is the result of the survey.
- a. 35 responded English
 - b. 50 responded Mathematics
 - c. 29 responded Biology
 - d. 12 responded Mathematics and English
 - e. 8 responded English and Biology
 - f. 11 responded Biology and math
 - g. 5 responded all

How many students are not taking any of the three subjects? *

(2 Points)

- ☐ 14
- ☐ 12
- ☐ 10
- ☐ 32

10. The members of the set $S = \{x \mid x \text{ is the square of an integer and } x < 100\}$ is

_____*

(1 Point)

- ☐ $\{0, 2, 4, 5, 9, 58, 49, 56, 99, 12\}$
- ☐ $\{0, 1, 4, 9, 16, 25, 36, 49, 64, 81\}$
- ☐ $\{1, 4, 9, 16, 25, 36, 64, 81, 85, 99\}$
- ☐ $\{0, 1, 4, 9, 16, 25, 36, 49, 64, 121\}$

11. Let a set $E = \{0, 2, 4, 6, 8, \dots\}$ of non-negative even numbers and $O = \{1, 3, 5, 7, 9, \dots\}$ of non-negative odd numbers then? *

(1 Point)

- ☐ Cardinality of set E is greater than that of O
- ☐ Cardinality of set O is greater than that of E
- ☐ Cardinality of set E is equal to that of O
- ☐ None of the mentioned

12. If cardinality of $(A \cup B) = \text{cardinality of } A + \text{cardinality of } B$. This means _____ *

(1 Point)

- ☐ A is a subset of B
- ☐ B is a subset of A
- ☐ A and B are disjoint
- ☐ None of the mentioned

13. In a survey, 51 American tourists were asked, if they have visited the following Latin American countries: Argentina, Brazil and Columbia.
- 35 tourists have visited Argentina.
- 34 tourists have visited Brazil.
- 19 tourists have visited Columbia.
- 5 tourists have visited Argentina and Columbia
- 11 tourists have visited Argentina and Brazil.
- 12 tourists have visited Argentina, Brazil and Columbia
- Everyone who visited Columbia also visited at least one of the following two countries: Argentina and Brazil
- a. How many American tourists visited Argentina but not Brazil or Columbia *
- (1 Point)

- ☐ 7
- ☐ 9
- ☐ 2
- ☐ 5

14. If A is a subset of B and B is a subset of C, then cardinality of $A \cup B \cup C$ is equal to _____ *
- (1 Point)

- ☐ Cardinality of C
- ☐ Cardinality of B
- ☐ Cardinality of A
- ☐ None of the mentioned

15. $A = \{\emptyset, \{\emptyset\}, 2, \{2, \emptyset\}, 3\}$, which of the following is true? *
(1 Point)

☐ $\{\{\emptyset, \{\emptyset\}\} \in A$

☐ $\{2\} \in A$

☐ $\emptyset \subset A$

☐ $3 \subset A$

16. In Question number 15 How many students take Math and English , but not Biology? *
(2 Points)

☐ 12

☐ 35

☐ 7

☐ 9

17. In Question number 6 How many American tourists visited Brazil and Columbia but not Argentina ? *
(1 Point)

☐ 9

☐ 7

☐ 2

☐ 5

18. Power set of empty set has exactly _____ subset. *
(1 Point)

- ☐ One
- ☐ Two
- ☐ Zero
- ☐ Three

19. Name *

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