

Abune Gorgorios Secondary School



Department of Mathematics

Mathematics 1st semester 1st worksheet for grade 9th 2016.

Part One: multiple choices

Choose the correct answer for the following question.

1. $If\ A \sqsubseteq B, then\ A \Delta B =$ _____ .

A. A/B B. B/A C. A D. B

2. For any two sets A & B, the simplified form of $(B' \cup A)'$=_____.

A. $A' \cup B$ B. B/A C. A/B D D. $B' \cap A'$

3. The simplified form of $(A/B) \cup (A \cap B)$= _____

A. B B. A C . $A \cup B$ D. $A \cap B$

4. $How\ many\ subset\ does\ the\ word\ 'book'\ have$?

A. 16 B.15 C.8 D.7

5. If $n(A) = 10\ and\ n(B) = 9\ then\ the\ greatest\ number\ of\ A \cap B =$_____.

A. 10 B.19 C.1 D.9

6. If $A \Delta B = \emptyset\ then\ what\ can\ you\ say\ aout\ the\ two\ set$?

A. A=B B. $B\ c\ A$ C. B $\sqsupset$ A D. A/B =A

7. Let $B = \{x: x \in N\ and\ x < 1\}, then$ what is the number of subset of set B?

A.2 B.1 C.0 D.3

8. $Suppose\ B\ is\ a\ proper\ subset\ of\ set\ C. if\ n(C) = 30$, then what is the maximum possible element in set B?

A. 0 B.30 C.29 D. 28

9. The simplified form of the set $A' \cup (A \cup B) =$_____.

A. A' B. $A \cap B$ C. U D.A/B

10. What is the unique number that is both even and prime number?

A.0 B. 4 C.2 D. 3

Part two: - work out.

Show all necessary steps clearly for the following qoustion.

1.$If\ B \sqsubseteq A\ , A \cap B = \{1,,4,5\}\ and\ A \cup B = \{1,2,3,4,5,6\}.\ then\ find\ set\ B.$

2. using Euclid's division lemma find the value of q & r such that, 215=11q+r

3. What is the least whole number should be added to the number 532868 to make it divisible by 3?

4. List all subset of the set $A = \{9, \{9, \emptyset\}, \emptyset\}$.

5. $If\ A \cap B = \{-1,0,1\}\ \&\ B \cap C = \{2,-1,0\}\ , then\ find\ B \cap (AUC).$

6. $Find\ the\ least\ possible\ value\ of\ k\ so\ that\ the\ number\ 37k124\ is\ divisible\ by\ 9.$

7. Find the simplified form of the set $A' \cap (A \cup B)$.

8. Give your own example of twin primes.

9. Is zero an even or prime number? Justify your answer.

10. If $n(U) = 30, n(A) = 12, n(B) = 13, n(A \cup B) = 20$, then find:-

a. $n(A' \cup B')$

b. $n(A\Delta\ B)$

11. If $n(A \cup B)' + n(B/A) = 3, n(A \cap B) = 4$ and $n(A/B) = 7$,then find $n(U)$.

12.Among the 250 regular customer of a shop ,149 of them regularly buy product A ,131 customers regularly buy product B .If 20 of the customers buy neither of the products ,then what is the number of customers that regularly buy only product A.