

Mathematics: Lesson01

Assessment



Question 1

The set of letters in the word MASTER is finite.

A. True

B. False

Question 2

$\{0\}$ represents a null set.

- A. True
- B. False

Question 3

$10 \notin$ of the set of multiples of 5.

True

False

Question 4

The set of prime numbers is an

- A. Finite set
- B. Null set
- C. Infinite set

Question 5

The set of negative integers is an

- A. Finite set
- B. Null set
- C. Infinite set

Question 6

$$A = \{3, 5, 9, 11\}$$

$$B = \{4, 6, 8, 10\}$$

$$C = \{3, 4, 5, 6, 7\}$$

Given sets A, B and C, is this statement True or False? $10 \in A$

A. True

B. False

Question 7

$$A = \{3, 5, 9, 11\}$$

$$B = \{4, 6, 8, 10\}$$

$$C = \{3, 4, 5, 6, 7\}$$

Given sets A, B and C, is this statement True or False? $B \not\subset C$

A. True

B. False

Question 8

$$A = \{3, 5, 9, 11\}$$

$$B = \{4, 6, 8, 10\}$$

$$C = \{3, 4, 5, 6, 7\}$$

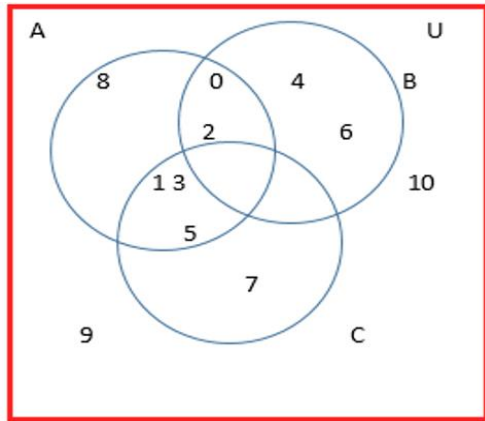
Given sets A, B and C, is this statement True or False? $(B \cup C) \subset \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

A. True

B. False

Question 9

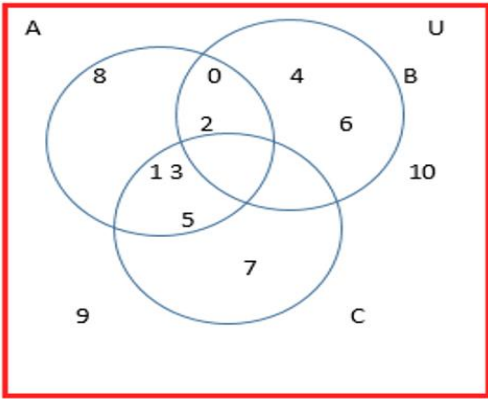
Use the Venn diagram to determine B' .



- A. $B' = \{1, 3, 5, 7, 8, 9, 10\}$
- B. $B' = \{9, 10\}$
- C. $B' = \{0, 1, 2, 3, 5, 7, 8, 9, 10\}$
- D. $B' = \{1, 3, 5, 7, 8\}$

Question 10

Use the Venn diagram to determine $B \cap C$.



A. $B \cap C = \{4, 6, 7\}$

B. $B \cap C = \{0, 1, 2, 3, 5\}$

C. $B \cap C = \{\}$

D. $B \cap C = \{0, 1, 2, 3, 4, 5, 6, 7\}$

Determine whether 17 is a member of these sets.

- 1.** $\{2, 4, 6, 8, 10, \dots\}$
- 2.** $\{3, 5, 7, 9, \dots\}$
- 3.** $\{x \mid x \text{ is a natural number less than } 20\}$

Determine whether each statement is true or false.

4. $21 \notin \{3, 6, 9, 12, 15 \dots\}$

5. $\{2, 4, 6, 8, 10\} \cup \{4, 8, 12\} = \{2, 4, 6, 8, 10, 12\}$

6. $\{2, 4, 6, 8, 10\} \subseteq \{4, 8, 12\}$

7. $\{2, 4, 6, 8, 10\} \cap \{4, 8, 12\} = \{4, 8\}$

8. $\{2, 4, 6, 8, 10\} \cup \emptyset = \emptyset$

9. $\{2, 4, 6, 8, 10\} \cup \{1, 3, 5, 7, 9\} = \{x \mid x \text{ is a natural number less than } 11\}$

Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15\}$, $A = \{3, 6, 9, 12, 15\}$
 $B = \{1, 3, 5, 7, 9\}$, $C = \{5, 10, 15\}$ and $D = \{2, 4, 6, 8, 10, 12, 14\}$

Determine:

10. $A \cap B$

11. $C \cap U$

12. $B \cup C$

13. D'

14. $A \cap D'$

15. $(A \cup C)'$

16. $(A \cap B) \cup D$

17. $(C \cap D) \cup A'$

18. $(\emptyset \cap C) \cup B$