UNIT 10 Logic and Venn Diagrams

CSEC Multiple Choice Questions

For each of these questions, choose the option (A, B, C or D) that is TRUE.

1. If \( U = \{1, 2, 3, \ldots, 10\} \) and \( S = \{4, 5, 6, 7, 8\} \), then \( S' = \)

(A) \{9, 10\}
(B) \{1, 2, 3\}
(C) \{1, 2, 3, 9\}
(D) \{1, 2, 3, 9, 10\}

2. If \( U = \{1, 2, 3, \ldots, 20\} \) and \( S = \) set of prime numbers, then \( S = \)

(A) \{3, 5, 7, 11, 13, 17\}
(B) \{2, 3, 5, 7, 11, 13, 17, 19\}
(C) \{1, 3, 5, 7, 9, 11, 13, 15, 17, 19\}
(D) \{1, 2, 3, 5, 7, 11, 13, 17\}

3. In the Venn diagram opposite, the shaded portion represents

(A) \( P \cup Q \)
(B) \( P \cap Q' \)
(C) \( P' \cap Q \)
(D) \( P \cap Q \)

4. In the figure opposite, \( U = \{a, b, c, d, e, f, g, h\} \).
\( (X \cap Y) \cup Z = \)

(A) \{c, e, f, g, h\}
(B) \{e, f, g\}
(C) \{f\}
(D) \{c, f, h\}
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5. In the figure opposite, the shaded portion represents

(A) \( X \cap Z \cup Y \)
(B) \( X \cap Y \cup Z \)
(C) \( X \cup Y \cap Z \)
(D) \( Y \cap Z \cup X \)

6. In the figure opposite, the shaded portion represents

(A) \( A \cup C \cap B \)
(B) \( B \cup (A \cap C) \)
(C) \((A \cup C)'\)
(D) \(A' \cup C'\)
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<td>4.</td>
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