Assignment 9

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

1. Choose the correct answer(s)?

   a) $Z_2$, $Z_6$, $Z_{10}$
   b) $Z_3$, $Z_4$, $Z_6$
   c) $Z_2$, $Z_5$, $Z_{10}$
   d) $Z_7$, $Z_9$, $Z_{12}$

   Accepted Answers: $\text{a, c}$

2. Let $a, b \in N$. Choose the correct answer(s)?

   a) $Z_2$, $Z_4$, $Z_8$
   b) $Z_2$, $Z_3$, $Z_5$
   c) $Z_2$, $Z_6$, $Z_{12}$
   d) $Z_2$, $Z_8$, $Z_{16}$

   Accepted Answers: $\text{a, d}$

3. Let $A = Z_2$ and $Z_{12}$ be groups. Choose the correct answer(s)?

   a) $Z_2 \times Z_2$ is a group.
   b) $Z_2 \times Z_{12}$ is a group.
   c) $Z_2 \times Z_{6}$ is a group.
   d) $Z_2 \times Z_{4}$ is a group.

   Accepted Answers: $\text{a, b}$

4. Let $A$ be a group and let $a, b \in A$. Choose the correct answer(s)?

   a) $a \circ b$ is a group.
   b) $a \circ b$ is a group.
   c) $a \circ b$ is a group.
   d) $a \circ b$ is a group.

   Accepted Answers: $\text{a, c}$

5. Let $Z_4 = \{ 0, 1, 2, 3 \}$ and $Z_2 = \{ 0, 1 \}$. Choose the correct answer(s)?

   a) $Z_4 \times Z_2$ is a group.
   b) $Z_4 \times Z_2$ is not a group.
   c) $Z_4 \times Z_2$ is a group.
   d) $Z_4 \times Z_2$ is a group.

   Accepted Answers: $\text{a, c}$

6. Let $a, b \in A$ be a subgroup of $A$. Choose the correct answer(s)?

   a) $a \circ b$ is a group.
   b) $a \circ b$ is a group.
   c) $a \circ b$ is a group.
   d) $a \circ b$ is a group.

   Accepted Answers: $\text{a, b}$

7. Let $A = \mathbb{C}$ and $\mathbb{R}$. Choose the correct answer(s)?

   a) $\mathbb{C} \times \mathbb{R}$ is a group.
   b) $\mathbb{C} \times \mathbb{R}$ is not a group.
   c) $\mathbb{C} \times \mathbb{R}$ is a group.
   d) $\mathbb{C} \times \mathbb{R}$ is a group.

   Accepted Answers: $\text{a, c}$

8. Let $Z_2 = \{ 0, 1 \}$. Choose the correct answer(s)?

   a) $Z_2 \times Z_2$ is a group.
   b) $Z_2 \times Z_2$ is not a group.
   c) $Z_2 \times Z_2$ is a group.
   d) $Z_2 \times Z_2$ is a group.

   Accepted Answers: $\text{a, c}$

9. Let $G$ be a group and $N$ be a normal subgroup of $G$. Choose the correct answer(s)?

   a) $G/N$ is a group.
   b) $G/N$ is not a group.
   c) $G/N$ is a group.
   d) $G/N$ is a group.

   Accepted Answers: $\text{a, b}$

10. Let $a, b \in A$ be a group. Choose the correct answer(s)?

    a) $a \circ b$ is a group.
    b) $a \circ b$ is a group.
    c) $a \circ b$ is a group.
    d) $a \circ b$ is a group.

    Accepted Answers: $\text{a, b}$