



Name: \_\_\_\_\_  
Section: \_\_\_\_\_

Date: \_\_\_\_\_  
Score: \_\_\_\_\_

**Second Summative Test (Part B) in Mathematics 8**  
**S.Y. 2022-2023**

**Multiple Choice:** Choose the letter that corresponds to the correct answer. Write the answer in your notebook.

- The process of observing data, recognizing patterns, and making generalizations from observations is called:
  - Deductive reasoning
  - Detachment
  - Inductive reasoning
  - Syllogism
- The type of reasoning which makes use of accepted rules of logic and general statements to arrive at a conclusion is called:
  - Deductive reasoning
  - Detachment
  - Inductive reasoning
  - Syllogism
- Any example that shows a statement is false is called:
  - Contra-example
  - Counterexample
  - False example
  - Inverse example
- Which of the following statements is false when the original conditional statement is false?
  - Conditional
  - Contrapositive
  - Converse
  - If-then statement
- Which of the following arguments employs deductive reasoning?
  - S, M, T, W, T, \_\_\_\_\_. S. The letter in the blank must be F.
  - 5, 10, 15, 20. The next number is 25.
  - J, F, M, A, M, \_\_\_\_\_. J. The letter in the blank must be J.
  - All piano players are musicians. Fred is a piano player. Therefore, Fred is a musician.
- Use inductive reasoning to find the next two terms of the sequence 1, 3, 9, 27, \_\_\_\_, \_\_\_\_\_.
  - 36, 45
  - 36, 63
  - 54, 108
  - 81, 243
- Supply the conclusion for the given hypothesis: If  $\angle 1 \cong \angle 2$ , then \_\_\_\_\_.
  - $\angle 1$  and  $\angle 2$  are complementary.
  - $\angle 1$  and  $\angle 2$  are supplementary.
  - $\angle 1$  and  $\angle 2$  form a linear pair.
  - $\angle 1$  and  $\angle 2$  have the same measure.
- Any set of ordered pairs is called:
  - Domain
  - Function
  - Range
  - Relation
- What do we call the correspondence where one element of the first set is paired with different elements in the second set?
  - One-to-one
  - One-to-many
  - Many-to-one
  - Many-to-many
- Which of the following relations is NOT a function?
  - $\{(3, 3), (5, 5), (6, 6), (7, 8)\}$
  - $\{(2, 5), (2, 6), (4, 5), (4, 6)\}$
  - $\{(-3, -2), (-2, -1), (-1, 0), (0, 1)\}$
  - $\{(-8, -6), (-6, -4), (-4, -2), (-2, 0)\}$
- Which of the following relations is NOT a function?
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- What kind of pairing is shown in the relation  $\{(0, 2), (0, 4), (0, 6), (0, 8), (0, 10)\}$ ?
  - One-to-one correspondence
  - One-to-many correspondence
  - Many-to-one correspondence
  - Many-to-many correspondence

- What kind of pairing is shown in the relation  $\{(3, 2), (4, 2), (5, 1), (6, 1)\}$ ?
  - One-to-one correspondence
  - One-to-many correspondence
  - Many-to-one correspondence
  - Many-to-many correspondence
- In the graph of  $3x - y \geq 5$ , the line  $3x - y = 5$  is the:
  - Half-plane
  - Plane divider
  - Shade
  - Solution
- A \_\_\_\_\_ of a system of linear inequalities is a pair of numbers that satisfies each inequality of the system.
  - Half-plane
  - Plane divider
  - Shade
  - Solution
- Which of the following ordered pairs is a solution to the system of linear inequality  $\begin{cases} x - 3y \leq -6 \\ x + y < 5 \end{cases}$ ?
  - (4, 5)
  - (-1, -2)
  - (1, -3)
  - (-2, 1)
- Which of the following is NOT a system of linear inequalities in two variables?
  - $\begin{cases} y < 4 \\ 4x + 3y > 2 \end{cases}$
  - $\begin{cases} 3x + y < 4 \\ 4x + 3y = 2 \end{cases}$
  - $\begin{cases} x \geq 2 \\ 4x + y > -2 \end{cases}$
  - $\begin{cases} \frac{2}{3}x - y < 3 \\ y > 1 \end{cases}$
- Which of the following graphs shows the solution to the system  $\begin{cases} y > \frac{4}{5}x - 2 \\ y \leq -2x + 3 \end{cases}$ ?
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- Which of the following graphs shows the solution to the system  $\begin{cases} x - 2y < -2 \\ y \leq -4x - 1 \end{cases}$ ?
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- A direct proof can be written in the following forms except:
  - Flowchart form
  - One-column form
  - Paragraph form
  - Two-column form
- The form of logical reasoning in which each statement is organized and backed up by the reasons is called:
  - Contradiction
  - Postulate
  - Proof
  - Theorem
- Arrange the steps in writing a direct proof:
  - Assume that the hypothesis is true.
  - Show that the conclusion is true.
  - Take the original conditional statement.
  - I, II, III
  - II, I, III
  - III, I, II
  - II, III, I
- When writing a two-column proof, which statements are usually stated in the beginning?
  - Conclusion
  - Given
  - Reasons
  - Statement to prove
- Supply the reason for the statement: "If  $\overline{AB} \cong \overline{CD}$ , then  $AB = CD$ ."
  - Definition of Betweenness
  - Definition of Congruent Angles
  - Definition of Congruent Segments
  - Definition of Midpoint
- Supply a valid conclusion for the hypothesis: "If  $\overline{AB} \perp \overline{AC}$ , then \_\_\_\_\_."
  - $\angle BAC$  is an acute angle
  - $\angle BAC$  is an obtuse angle
  - $\angle BAC$  is a right angle
  - $\angle BAC$  is a straight angle