Republic of the Philippines
DEPARTMENT OF EDUCATION
National Capital Region
Schools Division Office, Quezon City
Sauyo High School

Name: _____ Date: _____
Section: _____ Score: _____

Second Summative Test (Part A) in Mathematics 8
S.Y. 2022–2023

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

1. What do we call an inequality which can be written in any one of the following forms?
   $Ax + By < C$ $\quad Ax + By \leq C$
   $Ax + By > C$ $\quad Ax + By \geq C$
   A. Linear Equation in Two Variables
   B. Linear Equality in Two Variables
   C. Linear Inequality in Two Variables
   D. Linear Inequation in Two Variables

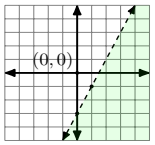
2. The graph of a linear inequality in two variables includes a region known as:
   A. Half-plane B. Plane divider C. Shade D. Solution

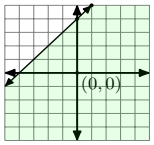
3. For a linear inequality involving the symbols $>$ or $<$, the _____ is dashed or broken line.
   A. Half-plane B. Plane divider C. Shade D. Solution

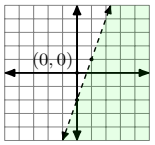
4. Translate the following situation into a mathematical phrase: "The sum of two numbers is less than 7."
   A. $x + y \geq 7$ B. $x + y \leq 7$ C. $x + y > 7$ D. $x + y < 7$

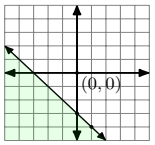
5. Write in symbols the phrase: "Twice a number is greater than or equal to another number."
   A. $2x > y$ B. $2x < y$ C. $2x \geq y$ D. $2x \leq y$

6. Which of the following ordered pairs is a solution to the inequality $x + y > -1$?
   A. (-1, -2) B. (0, 0) C. (-3, 2) D. (-2, -3)

7. Which of the following graphs shows the solution to the inequality $2x - y > 3$?
   A. 

   B. 

   C. 

   D. 

8. The set of permissible values for y or $f(x)$ that give the values of x real numbers is called:
   A. Domain B. Function C. Range D. Relation

9. A line that the graph of a function approaches but never intersects is called:
   A. Asymptote B. Vertical line test C. x-axis D. y-axis

10. Which of the following is NOT a linear function?
    A. $f(x) = -6x - 7$ B. $f(x) = 2(x - 3)$ C. $f(x) = -4x^2$ D. $f(x) = -4$

11. Which of the following is a NOT linear function?
    A.

x	-3	-1	1	3	5
y	-16	-6	4	14	24

    B.

x	-5	-4	-3	-2	-1
y	15	11	7	3	-1

    C.

x	-2	-1	0	1	2
y	-1	2	5	8	11

    D.

x	5	4	3	2	1
y	4	1	0	1	4

12. What is the domain of the function $g(x) = \sqrt{x + 1}$?
    A. $D = \{x | x \geq -1\}$ B. $D = \{x | x \geq 0\}$ C. $D = \{x | x \geq 1\}$ D. $D = \{x | x \geq 2\}$

13. If $f(x) = 4x - 1$, find $f(-1)$.
    A. $f(-1) = -4$ B. $f(-1) = -5$ C. $f(-1) = 4$ D. $f(-1) = 5$

14. A statement formed by interchanging the hypothesis and the conclusion is called:
    A. Conditional B. Contrapositive C. Converse D. Inverse

15. A statement formed by negating both the hypothesis and conclusion and also then interchanging these negations is called:
    A. Conditional B. Contrapositive C. Converse D. Inverse

16. What is the notation form of the converse statement?
    A. $p \rightarrow q$ B. $\sim p \rightarrow \sim q$ C. $q \rightarrow p$ D. $\sim q \rightarrow \sim p$

17. Which statement always has the same truth value as the original conditional statement?
    A. If-then statement B. Contrapositive C. Converse D. Inverse

18. Which of the following is the converse of the statement "The sum of angles forming a linear pair is 180°"?
    A. If angles form a linear pair, then their sum is 180°.
    B. If angles do not form a linear pair, then their sum is not 180°.
    C. If the sum of angles is 180°, then they form a linear pair.
    D. If the sum of angles is not 180°, then they do not form a linear pair.

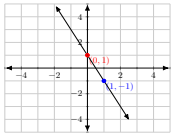
19. Which of the following is the inverse of the statement "Two intersecting lines lie in one plane"?
    A. If two lines intersect, then they lie in one plane.
    B. If two lines do not intersect, then they do not lie in one plane.
    C. If two lines lie in one plane, then they intersect.
    D. If two lines do not lie in one plane, they they do not intersect.

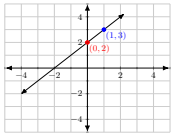
20. The abscissa of the coordinates of the point in which the graph intersects the x-axis is called:
    A. Domain B. Range C. x-intercept D. y-intercept

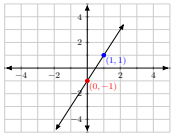
21. Which of the following shows the correct definition of slope?
    A. $\frac{\text{run}}{\text{rise}}$ B. $\frac{\text{rise}}{\text{run}}$ C. $\frac{x}{y}$ D. $\frac{y}{x}$

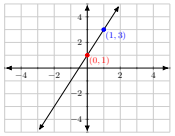
22. To find the y-intercept, let x be equal to:
    A. -1 B. 0 C. 1 D. y

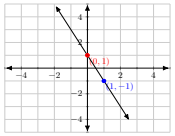
23. To find the x-intercept, let $f(x)$ be equal to:
    A. -1 B. 0 C. 1 D. y

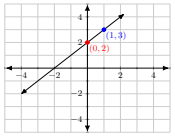
24. Which of the following is the graph of $f(x) = x + 2$?
    A. 

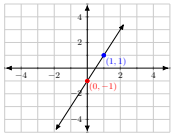
    B. 

    C. 

    D. 

25. Which of the following is the graph of $f(x) = -2x + 1$?
    A. 

    B. 

    C. 

    D.