

## Unit test 1: Linear Inequalities

Nick Name: ..... Mathayom 3/.....

### Part I:

Directions: Choose the correct answer.

- Two times the sum of a number and 8 is less than five. Represent in inequality form.
  - $X + 8 < 5$
  - $c) 2x + 8 < 5$
  - $2(x + 8) < 5$
  - $d) 2x < 5$
- Which of the following is the solution of the inequality  $2 - 3x < -7$ ?
  - $x \geq 5$
  - $x > 3$
  - $x < -3$
  - $x < -5$
- Solve for the value of  $x$  in the inequality  $|3x - 6| < 18$ 
  - $-4 < x < 6$
  - $-1 < x < -$
  - $-4 < x < 18$
  - $4 < x < 6$
- Three times a number add to 3 is less than two times the same number minus 4. What is the number?
  - $x < 7$
  - $c) x > 7$
  - $x < -7$
  - $d) x > -7$

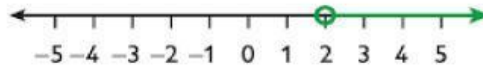
5. The solution of the inequality  $x - 19 \leq -3x - 7 \leq 2x + 3$  is?
- $-2 \leq x \leq 3$
  - $-4 \leq x \leq 3$
  - $1 \leq x \leq 3$
  - $-1 \leq x \leq 3$
6. Which of the following is the solution of the inequality  $4(x + 1) > \frac{x}{3} + 7$ ?
- $X > 7$
  - $X > 5$
  - $X > 6$
  - $X > 64$
7. What is the value of  $x$  in the inequality  $(x + 1)^2 > (x - 5)^2$ ?
- $X < 2$
  - $x > 4$
  - $x \leq 2$
  - $x > 2$
8. Consider which one is linear inequality in one variable
- $2x + 8 < 5$
  - $3(2x + 6) = 9$
  - $X + y + 10 < 5$
  - $4x^2 + 2x + 10 < 5$
9. Which inequality equation best represents the solution shown on the number line below.



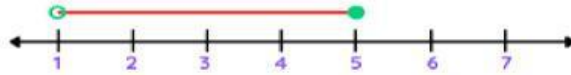
- $x > 5$
- $5 < x \leq 9$
- $5 \leq x \leq 9$
- $x \geq 9$

10. Which inequality has the solution represented by the numberline:

- a)  $2x + 5 < 9$
- b)  $2x + 5 > 9$
- c)  $2x + 5 \leq 9$
- d)  $2x + 5 \geq 9$



11. Which equation has the solution represented by the inequality:



- a)  $1 < x \leq 5$
- b)  $1 < x < 5$
- c)  $1 > x > 5$
- d)  $1 \leq x \leq 5$

12. Which word sentence represent the solution shown on the number line below.



- a) Represent 2, and every number more than or equal to 2
  - b) Every number more than 2
  - c) Represent 2, and every number less than 2
  - d) Represent 2, and every number less than or equal to 2
13. What is the verbal representation of  $n \geq -6$
- a) n is greater than -6 but not including -6
  - b) n is less than or equal to -6
  - c) n is less than -6 but not including -6
  - d) n is greater than or equal to -6
14. the statement "10 years old or more" can be represented by the inequality:
- a)  $y > 10$
  - b)  $y < 10$
  - c)  $y \geq 10$
  - d)  $y \leq 10$
15. the statement "less than 5" can be represented by the inequality:
- a)  $y \geq 5$
  - b)  $y < 5$
  - c)  $y \geq 5$
  - d)  $y \leq 5$

**Part II.**

**Direction:** Show your working clearly.

16. Solve the inequality and graph it on a number line.  $4(2x - 3) + 2(1 - 2x) \leq 2x - 5$

17. Solve the inequality and graph it on a number line.  $|x - 3| < 7$

18. Three times a number minus 15 is less than 6. Find this number.

19. Solve the inequality.  $2(x - 1) \leq 5(x + 2) - 3$

*Good luck!!*