

Unit test 1: Linear Inequalities

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Part I:

Directions: Choose the correct answer.

1. Two times the sum of a number and 8 is less than five. Represent in inequality form.
 - a) $X + 8 < 5$
 - b) c) $2x + 8 < 5$
 - c) $2(x + 8) < 5$
 - d) d) $2x < 5$
2. Which of the following is the solution of the inequality $2 - 3x < -7$?
 - a) $x \geq 5$
 - b) $x > 3$
 - c) $x < -3$
 - d) $x < -5$
3. Solve for the value of x in the inequality $|3x - 6| < 18$
 - a) $-4 < x < 6$
 - b) $-1 < x < -$
 - c) $-4 < x < 18$
 - d) $4 < x < 6$
4. Three times a number add to 3 is less than two times the same number minus 4. What is the number?
 - a) $x < 7$
 - b) c) $x > 7$
 - c) $x < -7$
 - d) 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 $4\left(\frac{x}{3} + 1\right) > \frac{x}{2} + 7$?
- $X > 7$
 - $c) X > 5$
 - $X > 6$
 - $d) X > 64$
7. What is the value of x in the inequality $(x + 1)^2 > (x - 5)^2$?
- $X < 2$
 - $c) x > 4$
 - $x \leq 2$
 - $d) x > 2$
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.



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

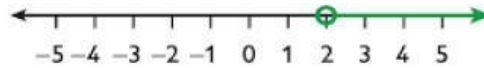
10. Which inequality has the solution represented by the numberline:

a) $2x + 5 < 9$

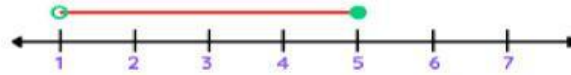
b) $2x + 5 > 9$

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!!