

Inequalities and Their Graphs Assignment

Check whether the given number is a solution of the inequality.

1. $x - 4 < 8$ $x = 5$

2. $3x - 8 < 10$ $x = 4$

3. $8x - 2 \geq 16$ $x = 4$

4. $x^2 - 5 > 8$ $x = 3$

5. $11 + 3x \leq 17$ $x = 2$

6. $x^3 - 18 \leq 8$ $x = 3$

7. $8 + x > 15$ $x = 7$

8. $27 \leq 11x - 8$ $x = 3$

Write each algebraic expression from the verbal expression.

9. The sum of 15 and x is greater than or equal to 12 minus y .

10. The difference of x and 7 is greater than 23.

11. The sum of x and 8 is less than or equal to 24.

12. The product of 3 and x is less than 15.

13. The difference of 9 and y is greater than or equal to 14.

14. x is greater than y divide by 2.

15. The product of x and 8 is less than or equal to 17.

16. x is less than 19 plus y .

Inequalities and Their Graphs Assignment

Graph each inequality.

17. $z \leq -20$



18. $m > 10$



19. $a \leq -10$



20. $b > 12$



Inequalities and Their Graphs Assignment

ANSWER

Check whether the given number is a solution of the inequality.

$$1. \quad x - 4 < 8$$

$$5 - 4 < 8$$

$$1 < 8$$

$$x = 5$$

$$2. \quad 3x - 8 < 10$$

$$3(4) - 8 < 10$$

$$12 - 8 < 10$$

$$4 < 10$$

$$x = 4$$

$$3. \quad 8x - 2 \geq 16$$

$$8(4) - 2 \geq 16$$

$$32 \geq 16$$

$$x = 4$$

$$4. \quad x^2 - 5 > 8$$

$$3^2 - 5 > 8$$

$$9 - 5 > 8$$

$$4 > 8$$

$$x = 3$$

$$5. \quad 11 + 3x \leq 17$$

$$11 + 3(2) \leq 17$$

$$11 + 6 \leq 17$$

$$17 \leq 17$$

$$x = 2$$

$$6. \quad x^3 - 18 \leq 8$$

$$3^3 - 18 \leq 8$$

$$27 - 18 \leq 8$$

$$9 \leq 8$$

$$x = 3$$

$$7. \quad 8 + x > 15$$

$$8 + 7 > 15$$

$$15 > 15$$

$$x = 7$$

$$8. \quad 27 \leq 11x - 8$$

$$27 \leq 11(3) - 8$$

$$27 \leq 33 - 8$$

$$27 \leq 25$$

$$x = 3$$

Write each algebraic expression from the verbal expression.

9. The sum of 15 and
- x
- is greater than or equal to 12 minus
- y
- .

$$51 + x \geq 12 - y$$

10. The difference of
- x
- and 7 is greater than 23.

$$x - 7 > 23$$

11. The sum of
- x
- and 8 is less than or equal to 24.

$$2 + 8 \leq 24$$

12. The product of 3 and
- x
- is less than 15.

$$3x < 15$$

13. The difference of 9 and
- y
- is greater than or equal to 14.

$$9 - y \geq 14$$

- 14.
- x
- is greater than
- y
- divide by 2.

$$x > \frac{y}{2}$$

Inequalities and Their Graphs Assignment

15. The product of x and 8 is less than or equal to 17.

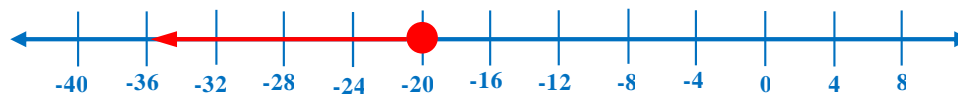
$$x \cdot 8 \leq 17$$

16. x is less than 19 plus y .

$$x < 19 + y$$

Graph each inequality.

17. $z \leq -20$



18. $m > 10$



19. $a \leq -10$



20. $b > 12$

