

Skills Practice

Name _____ Date _____

Calculating Answers Solving Linear Equations and Linear Inequalities in One Variable

Vocabulary

Write the term that best completes each statement.

1. The solution of an inequality can be graphed on a(n) _____.
2. Adding, subtracting, multiplying, and distributing are all examples of _____ that can be used to solve an equation.
3. Addition, subtraction, multiplication, and division are the four basic _____ that can be applied to both sides of a linear equation to solve the equation.
4. A(n) _____ is a statement that compares two expressions.

Problem Set

Indicate which transformation(s) are needed to solve each equation.

1. $x - 1 = 4$

Add 1 to both sides.

2. $x + 3 = 2$

3. $2x = 4$

4. $\frac{x}{4} = 7$

5. $3x + 2 = 8$

6. $\frac{x}{2} - 5 = 15$

Solve each equation.

7. $x + 3 = 10$

$$x + 3 - 3 = 10 - 3$$

$$x = 7$$

8. $-3 + x = 1$

1

9. $2x - 6 = 10$

10. $3x + 9 = 27$

11. $\frac{x}{2} + 3 = 1$

12. $-\frac{x}{3} - 2 = 4$

13. $-\frac{2}{3}x + 3 = -1$

14. $\frac{3}{5}x + 4 = -8$

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15. $2x + 15 = 5 - 3x$

16. $4x - 3x = 9 - 2x$

Solve each inequality. Graph the solution on a number line.

17. $3x + 2 < 8$

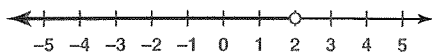
18. $2x - 5 > 7$

$$3x + 2 - 2 < 8 - 2$$

$$3x < 6$$

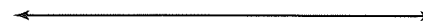
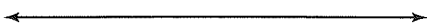
$$\frac{3x}{3} < \frac{6}{3}$$

$$x < 2$$



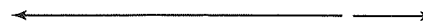
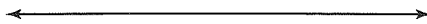
19. $-4x + 3 \leq -13$

20. $2 - 3x \geq 11$



21. $2x - 3 \neq 5$

22. $-x + 4 \neq -13$



23. $2(x + 3) \geq 5$

24. $4 \geq -3(2x + 5)$

1



25. $-\frac{x}{2} + 3 < 4$

26. $\frac{2}{3}x - 4 > 10$

