# Prerequisite Skills for Integrated Algebra and Geometry

## Computation:

- Apply integer rules to make calculations (without a calculator)
  - Khan Academy Video: Adding and Subtracting Integers
  - Khan Academy Video: Multiplying and Dividing Integers
- Use order of operations to simplify expressions
  - Khan Academy Video: Order of Operations
- Apply the Distributive Property to simplify expressions
  - Khan Academy Article: The Distributive Property Explained
- Operations on fractions (basic)
  - Khan Academy Video: Adding Fractions with Unlike Denominators
  - Khan Academy Video: Subtracting Fractions with Unlike Denominators
  - Khan Academy Video: Multiplying Fractions
  - Khan Academy Video: Dividing Fractions

## Solving Equations and Inequalities:

- Solve two-step equations using inverse operations
  - Khan Academy Review: Two-Step Equations
- Graph inequalities in one variable on a number line
  - Khan Academy Video: Plotting Inequalities

## Graphing:

- Graph ordered pairs on the coordinate plane
  - Khan Academy Video: Plotting a Point

### PRACTICE PROBLEMS

**Find the sum, difference, product, or quotient.**

1. $5 - 12$
2. $-8 - 7$
3. $-11 + 20$
4. $7 - (-7)$
5. $-4 \cdot -8$
6. $9 \cdot -3$
7. $-12 \div 2$
8. $-30 \div -5$

**Use order of operations to simplify each expression.**

9. $20 - 10 + 10$

10. $2(5 + 4) \div 6$

11. $4^2 \div 2 + 2$

12. $8 \div 4 \cdot 2 + (9 - 6)^2$

**Apply the Distributive Property to simplify each expression.**

13. $3(10 + 7)$

14. $5(20 - 3)$

15. $8(x - 7)$

16. $11(x + 2)$

**Find the sum, difference, product, or quotient.**

17. $\frac{5}{6} + \frac{2}{3}$

18. $\frac{1}{4} + \frac{1}{3}$

19. $\frac{1}{3} - \frac{1}{10}$

20. $\frac{2}{3} - \frac{1}{9}$

21. $\frac{1}{5} \cdot \frac{2}{7}$

22. $\frac{3}{8} \cdot \frac{4}{9}$

23. $\frac{7}{9} \div \frac{3}{2}$

24. $\frac{5}{6} \div \frac{10}{3}$

**Solve each of the following two-step equations. Check each solution.**

25. $3x - 10 = 11$

26. $-4x + 9 = 13$

27. $\frac{x}{2} + 3 = 18$

28. $\frac{x}{6} - 6 = 0$

**Graph each of the following inequalities on a number line.**

29. $x > 5$

30. $x < 3$

31. $x \geq -4$

32. $x \leq 150$

**33. Graph the following ordered pairs on the coordinate plane. Label each point.**

$A$: $(3, -2)$ $B$: $(-10, 10)$ $C$: $(4, 0)$ $D$: $(7, 7)$ $E$: $(-6, 5)$ $F$: $(0, -8)$ $G$: $(1, 9)$ $H$: $\left(\frac{3}{2}, -5\right)$