Prerequisite Skills for Integrated Algebra and Geometry

Computation:

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

Solving Equations and Inequalities:

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

Graphing:

- o Graph ordered pairs on the coordinate plane
 - o 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



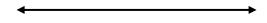
30. x < 3



31. $x \ge -4$



32. $x \le 150$



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: $(\frac{3}{2},-5)$

