**Simplifying Algebraic Expressions**

1. Vocabulary Review: Define variable, coefficient, like terms.

II. Combine like terms:

1) 4x + 7x 2) 3a - 2a + a 3) 5m - 2n + 3m + n

III. Distribute and simplify:

4) 3(x + 4) 5) 2(2x - 5) + x 6) -4(x - 1) + 2x

IV. Write an expression for:

7) Triple a number decreased by 4

1. The sum of 2 times a number and 6

V. Challenge:

9) Simplify: 2(x - 3) + 4(x + 5) - 3x

VI. Extra Practice:

10) Simplify: 3(2x + 1) + 4x - 5

1. Combine: 6a - 2a + 3a - 1
2. Simplify: 5(3x - 2) - 2(x + 4)
3. Expand: 2(x + 5) + 3(x - 2)

14) Fully simplify: 4y - 2(3 - y) + y

**Solving Two-Step Equations**

1. Vocabulary Review: Define equation, inverse operations.

II. Solve the following:

1) 2x + 5 = 13 2) 3x - 7 = 11

1. (x/2) + 4 = 10 4) 5x - 3 = 2x + 6
2. Create and solve your own word problem.

IV. Challenge: Solve and show all steps.

5) 4(2x - 3) = 20

V. Extra Practice:

6) 4x + 7 = 31

1. 3x - 4 = 20
2. 6 = 2x - 8
3. (x/3) + 2 = 5

10) 7x - 5 = 2x + 10

**Graphing & Functions**

1. Vocabulary: Define function, slope, intercept.

II. Plot the points:

1) (2, 3), (4, -1), (0, 0)

1. Identify domain & range.

III. Find slope and y-intercept:

3) y = 2x + 5 4) y = -3x + 1

IV. Determine if a relation is a function:

5) {(1, 2), (2, 3), (1, 4)}

V. Challenge: Create a table and graph for y = x² - 1.

VI. Extra Practice:

6) Function? {(2, 3), (4, 5), (2, 1)}

1. Slope/intercept of y = 4x - 2
2. Graph y = -2x + 3
3. Domain/range: {(0, 0), (2, 4), (3, 9)}

10) Create & graph your own function

**Points, Lines, Rays, and Planes**

1. Define: point, line, ray, plane, line segment.

II. Label the following:

1) Sketch and name a plane with 3 points

1. Name a line with two points
2. Identify real-world examples of lines and planes.
3. Challenge: Draw intersecting lines and a transversal.

V. Extra Practice:

3) Name 3 non-collinear points

1. Draw intersecting lines & a plane
2. Define & draw opposite rays
3. Real-world examples

7) Sketch intersection of a line & plane

**Parts of a Circle**

1. Label parts: center, radius, diameter, chord, arc.
2. Formulas:

Circumference: C = 2πr

Area : A = πr² where π = 3.14 or 22/7

III. Practice:

1) Find circumference: r = 5

1. Find area: r = 7
2. Given d = 10, find C and A

IV. Challenge:

4) If C = 31.4, what is r? (Use π = 3.14)

V. Extra Practice:

5) d = 12, find r, C, A

1. Area of semicircle, r = 6
2. A = 50.24, find r
3. Label: C, AB, CD on a circle

9) Compare circle areas: r = 3 cm & r = 6 cm

**Polygons and Angle Relationships**

1. Vocabulary: polygon, regular polygon, interior angle.

II. Angle sum formula: (n-2)×180°

III. Practice:

1) Find angle sum: octagon

1. One angle of regular pentagon?
2. Draw triangle, quadrilateral, pentagon and label angles.

IV. Extra Practice:

4) Sum of angles: decagon

1. Regular hexagon angle?
2. Label pentagon angles
3. Table: 3–8 sided polygons

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8) How to find one angle of regular polygon

**Angles with Parallel Lines and a Transversal**

1. Identify angle pairs: corresponding, alternate interior, vertical.
2. Label a diagram with all angles.

III. Solve for missing angles:

1) angle 1 = 120°, find angle 2 if corresponding

1. angle A = 70°, find alternate interior angle
2. Create your own diagram and identify angle relationships.

V. Extra Practice:

3) Corresponding angle = 75°, find missing

1. angle 1 = 100°, find all related angles
2. Mark all angle relationships in diagram
3. Solve an equation using angle pairs

7) Real-world scenario using angle relationships