

Math 231 Worksheet 1

1. Expand and simplify.

$$(x + 3)(4x - 5)$$

2. Factor the expression.

$$4x^2 - 25$$

3. Simplify the rational expression.

$$\frac{x^2 + 3x + 2}{x^2 - x - 2}$$

4. Solve the equation.

$$x^2 - x - 12 = 0$$

5. Solve the inequality. Write your answer using interval notation.

$$x^2 < 2x + 8$$

6. Sketch the graph of the function.

$$y = x^2 - 1$$

7. Find the domain of the function.

$$\sqrt{x^2 - 1}$$

8. If $f(x) = x^2 + 2x - 1$ and $g(x) = 2x - 3$, find the composition.

$$g \circ f$$