# Simplifying Rational Expressions and Restricted values

## Part 1

Compare the equations:

1. Do you expect the graphs to look the same? Why?
2. Look at the two graphs on the back side of the handout. For what values of *x* does and represent the same number?
3. Can you find a reasonable explanation for what you observe?

### Part 1b

Chart, line chart

Description automatically generated Chart, line chart

Description automatically generated

## Part 2: Why do Restricted values matter?

Proof for 2 = 0

We know does not equal , but here’s the proof. Find the fault in this argument.

Suppose that *a* and *b* are any

equal real numbers.

Square both sides of the

equation.

Subtract

Multiply both sides by 2

On the right side,

Factor

Divide both sides by

Divide both sides by