

$$(x^2 - 1)\left(\frac{3x}{x - 1} - \frac{1}{x^2 - 1}\right) = 2(x^2 - 1)$$

Since  $(x^2 - 1) = (x + 1)(x - 1)$  (Chapter 9 formulas—see review section  $(a^2 - b^2) = (a + b)(a - b)$ )

The first denominator cancels and leaves  $3x(x + 1)$

And the second denominator cancels leaving 1

So you get:

$$3x(x + 1) - 1 = 2x^2 - 2$$

Doing the distributive property and then Combining like terms:

$$3x^2 + 3x - 1 - 2x^2 + 2 = 0$$

$$x^2 + 3x + 1 = 0$$

Now you can apply the Quadratic Formula

And  $x = -0.38$  and  $-2.62$