

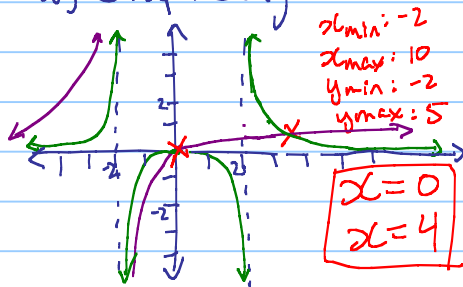
2.3b Solving Rational Equations

Note Title

27/09/2012

Find the solution to $\frac{x^2}{x^2-4} = \frac{2x}{x+2}$

a) Graphically



$$y_1 = x^2/(x^2-4)$$
$$y_2 = 2x/(x+2)$$

b) Algebraically

$$\frac{x^2}{x^2-4} = \frac{2x}{x+2}$$
$$\frac{x^2 \cancel{(x+2)(x-2)}}{\cancel{(x+2)(x-2)}} = \frac{2x \cancel{(x+2)(x-2)}}{\cancel{x+2}}$$

Restrictions: $x \neq 2, -2$

$$x^2 = 2x^2 - 4x$$

$$0 = x^2 - 4x$$

$$0 = x(x-4)$$

$$x = 0, 4$$

check!