

Simplify each of the following rational functions by factoring. List all NPVs (restrictions).

1. $y = \frac{x^2 - 3x}{x}$

2. $y = \frac{x+4}{3x^2 + 4x - 4}$

3. $y = \frac{2x^2 - 4x}{x^2 + 3x - 28}$

Simplify each of the following rational functions by factoring. List all NPVs (restrictions).

1. $y = \frac{x^2 - 3x}{x}$

$$y = \frac{x(x-3)}{x}$$

$$y = x-3,$$

$$\text{NPV: } x=0$$

2. $y = \frac{x+4}{3x^2 + 4x - 4}$

$$y = \frac{x+4}{3x^2 + 6x - 2x - 4}$$

$$\begin{matrix} A(-12) \\ \text{sum } 4 \end{matrix} \left. \begin{matrix} 6, -2 \end{matrix} \right\}$$

$$y = \frac{x+4}{3x(x+2) - 2(x+2)}$$

$$y = \frac{x+4}{(x+2)(3x-2)}$$

$$\text{NPVs: } x = -2$$

$$3x-2=0$$

$$3x=2$$

$$x = \frac{2}{3}$$

$$x = \frac{2}{3}$$

3. $y = \frac{2x^2 - 4x}{x^2 + 3x - 28}$

$$y = \frac{2x(x-2)}{(x-4)(x+7)}$$

NPVs:

$$x = 4$$

$$x = -7$$