Solve $x^2-10x+7=0$ by completing the square.

$$x^2-10x+7=0$$

$$x^2-10x=-7$$

$$x^2-10x+25=-7+25$$

$$(x-5)(x-5)=18$$

$$(x-5)^2=18$$

$$\sqrt{(x-5)^2}=\pm\sqrt{18}$$

$$x-5=\pm 3\sqrt{2}$$

$$\boxed{x=5\pm 3\sqrt{2}}$$

Solve $2x - 9 \leq 5x - 13$

$-3x - 9 \leq -13$

$-3x \leq -4$

$\frac{-3x}{-3} \geq \frac{-4}{-3}$

$\boxed{x \geq \frac{4}{3}}$

$-9 \leq 3x - 13$

$4 \leq 3x$

$\frac{4}{3} \leq x$

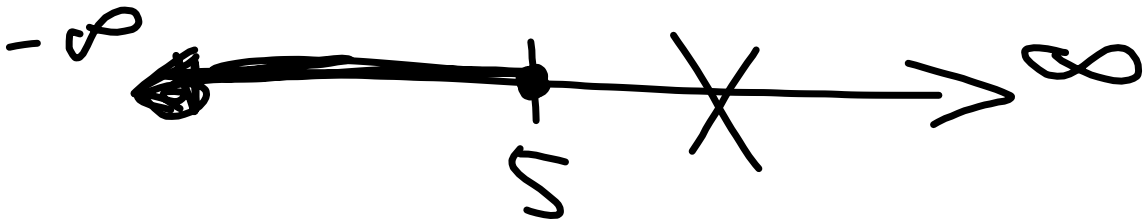
$$f(x) = \frac{5}{x^2-16}$$

Domain?

$$f(x) = \frac{5}{(x+4)(x-4)}$$

$$\boxed{x \neq 4, -4}$$

$$y = \sqrt{5 - x}$$



$$x \leq 5$$

$$(-\infty, 5]$$

$$\frac{3}{x^2-4} - \frac{5}{x^2-2x}$$

$$\frac{x}{x} \cdot \frac{3}{(x+2)(x-2)} - \frac{5}{x(x-2)} \cdot \frac{(x+2)}{(x+2)}$$

$$\frac{3x-5(x+2)}{x(x+2)(x-2)}$$

$$\frac{3x-5x-10}{x(x+2)(x-2)}$$

$$\boxed{\frac{-2x-10}{x(x+2)(x-2)}}$$

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

$$= \frac{\cancel{(x+2)}(x-2)}{\cancel{3}} \cdot \frac{\cancel{6}^{\,2}}{\cancel{x+2}}$$

$$\left.\begin{aligned} &= 2(x-2) \\ &= 2x-4 \end{aligned}\right\} \text{or}$$

$$\frac{1-\frac{1}{x}}{1+\frac{4}{x}-\frac{5}{x^2}} \cdot \frac{x^2}{x^2}$$

$$\frac{x^2-x}{x^2+4x-5}$$

$$\frac{x\cancel{(x-1)}}{(x+5)\cancel{(x-1)}}$$

$$\frac{x}{x+5}$$