

$$5. \frac{1}{x^2-16} - \frac{2}{x-4} = \frac{1}{x+4}$$

$$a) \begin{aligned} x^2-16 &\neq 0 \\ x^2 &\neq 16 \\ x &\neq \pm 4 \end{aligned}$$

$$b) \{ x \mid x \neq \pm 4 \}$$

\uparrow any x \uparrow given that \swarrow is not

$$17. \text{ Solve } \frac{x \cdot x}{x} - \frac{24}{x} = -\frac{2x}{x}$$

a) Restrictions on Domain
 $x \neq 0$

b)

$$x \cdot \frac{x^2-24}{x} = \frac{-2x}{x} \cdot x$$

$$x^2-24 = -2x$$

$$x^2+2x-24=0$$

$$(x+6)(x-4)=0$$

$$\begin{aligned} \text{If } x+6=0 & \quad \& \quad x-4=0 \\ \text{then } x=-6 & \quad \quad x=4 \end{aligned}$$

$$\{ -6, 4 \}$$

sm to lg

$$\text{LCD} : (p-2)(p+1)(p+2)$$

$$40. \frac{5(p-2)}{p^2+3p+2} - \frac{3(p+1)}{p^2-4} = \frac{1(p+2)}{p^2-p-2}$$

$$(p-2)(p+2)(p+1) \frac{(p-2)(p+2)}{(p+1)} \frac{(p-2)(p+1)(p+2)}{(p-2)(p+1)(p+2)}$$

$$\frac{\cancel{(p-2)}\cancel{(p+2)}\cancel{(p+1)} \checkmark \checkmark \checkmark \checkmark}{5p-10-3p-3} = \frac{p+2}{\cancel{(p-2)}\cancel{(p+2)}\cancel{(p+1)}} \quad \frac{\cancel{(p-2)}\cancel{(p+2)}\cancel{(p+1)}}{\cancel{(p-2)}\cancel{(p+1)}\cancel{(p+2)}}$$

$$D. \text{ Restr} : \{-2, -1, 2\}$$

$$\{x \mid x \neq -2, -1, 2\} \quad \text{so far}$$

$$\begin{array}{rcl} 2p - 13 & = & p + 2 \\ -p & +13 & -p & +13 \\ \hline p & = & 15 \end{array}$$

$$\{15\}$$

51. $F(r) = \frac{225,000}{r}$

$F(r)$: Force (lb)
 r : rad of curve (ft)

a) $450 = \frac{225,000}{r}$

$$r = 225,000 / 450 = 500 \text{ ft}$$

b) as r increases, $F(r)$ decreases