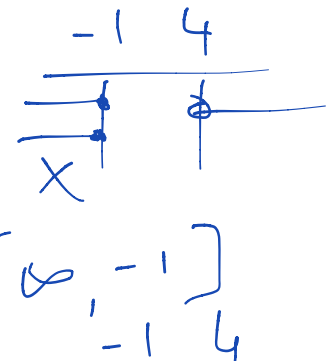
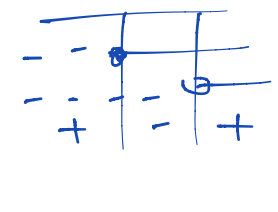


$$\sqrt{\frac{x+1}{x-4}} : \sqrt{\frac{x+1}{-x^2}} = \sqrt{\frac{\cancel{x+1}}{x-4} \cdot \frac{-x^2}{\cancel{x+1}}} = \sqrt{\frac{-x^2}{x-4}}$$

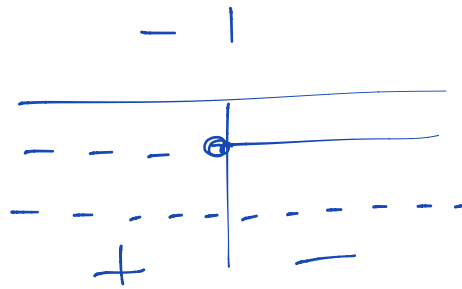
$$\left\{ \begin{array}{l} \frac{x+1}{x-4} \geq 0 \\ \frac{x+1}{-x^2} \geq 0 \end{array} \right. \left\{ \begin{array}{l} x \leq -1 \vee x > 4 \\ x \leq -1 \end{array} \right.$$


C.E. = $(-\infty, -1]$

I) $\frac{x+1}{x-4} \geq 0$ $N \geq 0$ $x \geq -1$ $D > 0$ $x > 4$



II) $\frac{x+1}{-x^2} \geq 0$ $N \geq 0$ $x \geq -1$
 $D > 0$ $-x^2 > 0$, $x^2 < 0$ *mai*

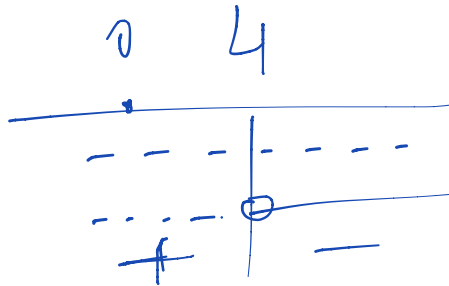


$$\frac{-x^2}{x-4} > 0$$

$$N > 0$$

$$x = 0$$

$$D > 0 \quad x > 4$$



$$\sqrt[3]{\frac{24(x+1)^4}{9(2-x)^6}}$$

$$= \sqrt[3]{\frac{2^3 \cdot \cancel{3} (x+1)^4}{3^{\cancel{3}} (2-x)^6}} =$$

$$= \frac{2(x+1)}{(2-x)^2} \sqrt[3]{\frac{x+1}{3}}$$

$$\sqrt{a+b} \quad \sqrt[3]{(a+b)^2} \quad \sqrt[9]{a-b}$$

$$a+b \geq 0; \quad a \geq -b$$

$$\sqrt[18]{(a+b)^3} \quad \sqrt[18]{(a+b)^{12}} \quad \sqrt[18]{(a-b)^2}$$

$$\sqrt[6]{\frac{ab^2}{a-1}} \cdot \sqrt[6]{\frac{a^2-a}{a^2b^2-2ab^2+b^2}} =$$

$$= \sqrt[6]{\frac{ab^2}{\cancel{a-1}} \cdot \frac{a(\cancel{a-1})}{b^2(a-1)^2}} = \sqrt[6]{\frac{a^2}{(a-1)^2}} =$$

$$= \sqrt[3]{\frac{a}{a-1}}$$

Potenza di un radicale

$$\left(\sqrt[3]{2^2} \right)^4 = \sqrt[3]{2^8}$$

Radice di radice

$$\sqrt[3]{\sqrt{2}} = \sqrt[6]{2}$$

$$\sqrt[3]{a^2 \sqrt[4]{a \sqrt{a}}} = \sqrt[3]{a^2 \sqrt[4]{a^3}}$$

$$= \sqrt[3]{\sqrt[28]{a} \sqrt{a^3}} = \sqrt[3]{\sqrt[8]{\sqrt{a^{19}}}} = \sqrt[24]{a^{19}}$$

Summa algebra

$$\begin{array}{cc} \sqrt{2} & + & \sqrt{5} \\ \downarrow & & \downarrow \\ x & + & y \end{array}$$

$$2\sqrt{2} + 3\sqrt{2} = 5\sqrt{2}$$

$$2x + 3x = 5x$$

$$\sqrt{2} + \sqrt{4} = \sqrt{2} + 2$$

$$\begin{aligned} \underline{\underline{\sqrt{2} + \sqrt{8}}} &= \sqrt{2} + \sqrt{2^3} = \\ &= \sqrt{2} + 2\sqrt{2} = \underline{\underline{3\sqrt{2}}} \end{aligned}$$

$$\sqrt{2} + \sqrt{16} = \sqrt{2} + 4$$

$$\sqrt{3} + \sqrt{9} = \sqrt{3} + 3$$

$$\sqrt{18} = \sqrt{3^2 \cdot 2} = 3\sqrt{2}$$

$$6\sqrt{48} + \sqrt{18} - \sqrt{\frac{50}{9}} - \sqrt{108} =$$

$$= 6\sqrt{2^4 \cdot 3} + \sqrt{3^2 \cdot 2} - \sqrt{\frac{5^2 \cdot 2}{3^2}} - \sqrt{2^2 \cdot 3^3} =$$

$$= \underline{24\sqrt{3}} + \underline{3\sqrt{2}} - \underline{\frac{5}{3}\sqrt{2}} - \underline{6\sqrt{3}} =$$

$$= 18\sqrt{3} + \frac{4}{3}\sqrt{2}$$