$$\begin{cases} \sqrt{5}\,x - \sqrt{2}\,y = -7 \\ 2\sqrt{5}\,x + y = \sqrt{2} - 10 \end{cases}$$

$$D = \begin{vmatrix} \sqrt{5} & -\sqrt{2} \\ 2\sqrt{5} & 1 \end{vmatrix} = \sqrt{5} + 2\sqrt{10}$$

$$D_x = \begin{vmatrix} -7 & -\sqrt{2} \\ \sqrt{2}-10 & 1 \end{vmatrix} = -7 + 2 - 10\sqrt{2}$$
$$= -5 - 10\sqrt{2}$$

$$D_y = \begin{vmatrix} \sqrt{5} & -7 \\ 2\sqrt{5} & \sqrt{2}-10 \end{vmatrix} = \sqrt{10} - 10\sqrt{5} + 14\sqrt{5} =$$
$$= \sqrt{10} + 4\sqrt{5}$$

$$x = \frac{-5 - 10\sqrt{2}}{\sqrt{5} + 2\sqrt{10}} \cdot \frac{\sqrt{5} - 2\sqrt{10}}{\sqrt{5} - 2\sqrt{10}} =$$

$$+20\sqrt{20} =$$
$$40\sqrt{5}$$

$$= \frac{-5\sqrt{5} + \cancel{10\sqrt{10}} - \cancel{10\sqrt{10}} + 40\sqrt{5}}{5 - 40} =$$

$$= \frac{35\sqrt{5}}{-35} = -\sqrt{5}$$

$$y = \frac{\sqrt{10} + 4\sqrt{5}}{\sqrt{5} + 2\sqrt{10}} = \frac{\cancel{\sqrt{5}}\left(\sqrt{2} + 4\right)}{\cancel{\sqrt{5}}\left(1 + 2\sqrt{2}\right)} =$$

$$= \frac{\sqrt{2} + 4}{1 + 2\sqrt{2}} \cdot \frac{1 - 2\sqrt{2}}{1 - 2\sqrt{2}} = \frac{\sqrt{2} - \cancel{4} + \cancel{4} - 8\sqrt{2}}{1 - 8} =$$

$$= \frac{-7\sqrt{2}}{-7} = \sqrt{2}$$

$$\frac{3}{\underbrace{(\sqrt{5}+\sqrt{3})}_{a}-\underbrace{\sqrt{2}}_{b}}\cdot\frac{\sqrt{5}+\sqrt{3}+\sqrt{2}}{\underbrace{(\sqrt{5}+\sqrt{3})}_{a}+\underbrace{\sqrt{2}}_{b}}=$$

$$=\frac{3(\sqrt{5}+\sqrt{3}+\sqrt{2})}{(\sqrt{5}+\sqrt{3})^2-(\sqrt{2})^2}=$$

$$=\frac{3(\sqrt{5}+\sqrt{3}+\sqrt{2})}{5+3+2\sqrt{15}-2}=$$

$$=\frac{3(\sqrt{5}+\sqrt{3}+\sqrt{2})}{6+2\sqrt{15}}\cdot\frac{6-2\sqrt{15}}{6-2\sqrt{15}}$$

$$\frac{1}{\sqrt[3]{7}+\sqrt[3]{2}}$$

$$\frac{x}{\sqrt{2}} + \frac{x+1}{\sqrt{2}+\sqrt{3}} > \sqrt{2}$$

$$\frac{x\sqrt{2}}{2} + \frac{(x+1)(\sqrt{2}-\sqrt{3})}{\underset{-1}{2-3}} > \sqrt{2}$$

$$\frac{x\sqrt{2}}{2} - \sqrt{2}x + \sqrt{3}x - \sqrt{2} - \sqrt{3} > \sqrt{2}$$

$$\sqrt{2}x - 2\sqrt{2}x + 2\sqrt{3}x - 2\sqrt{2} - 2\sqrt{3} > 2\sqrt{2}$$

$$-\sqrt{2}x + 2\sqrt{3}x > 4\sqrt{2} + 2\sqrt{3}$$

$$(-\sqrt{2} + 2\sqrt{3})x > 4\sqrt{2} + 2\sqrt{3}$$

$$x > \frac{4\sqrt{2}+2\sqrt{3}}{2\sqrt{3}-\sqrt{2}}$$

$$\sqrt{a-\sqrt{b}} \qquad \sqrt{a\sqrt{b}}$$

radicale doppio

$$\sqrt{a\pm\sqrt{b}} = \sqrt{\frac{a+\sqrt{a^2-b}}{2}} \pm \sqrt{\frac{a-\sqrt{a^2-b}}{2}}$$

$$a^2-b = 9-8 = 1$$

$$\sqrt{3+\sqrt{8}} =$$

$$= \sqrt{\frac{3+1}{2}} + \sqrt{\frac{3-1}{2}} =$$

$$= \sqrt{2} + 1$$

$$\sqrt{3+\sqrt{2}} = \qquad 9-2=7$$

$$= \sqrt{\frac{3+\sqrt{7}}{2}} + \sqrt{\frac{3-\sqrt{7}}{2}}$$