4.7
3

$$\left(\frac{2}{3}\right)^{\log_{0.5}(x^2+4x+4)} < \left(\frac{9}{4}\right)^{\log_2(x^2-3x-10)}$$

$$\left(\frac{2}{3}\right)^{\log_{2^{-1}}(x^2+4x+4)} < \left(\frac{3}{2}\right)^{2\log_2(x^2-3x-10)}$$

$$\left(\frac{2}{3}\right)^{-\log_2(x^2+4x+4)} < \left(\frac{3}{2}\right)^{2\log_2(x^2-3x-10)}$$

$$\left(\frac{3}{2}\right)^{\log_2(x+2)^2} < \left(\frac{3}{2}\right)^{2\log_2(x^2-3x-10)}$$

$$\log_2(x+2)^2 < \log_2(x^2-3x-10)^2$$

$$(x+2)^2 < (x-5)^2(x+2)^2$$

$$0 < (x+2)^2\left((x-5)^2-1\right)$$

$x = -2$ $\qquad$ $x^2-10x+24=0$

$x=6 \quad x=4$

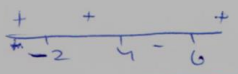
תחום הגדרה:

$x^2-3x-10>0$ $\qquad$ $x^2+4x+4>0$

$(x-5)(x+2)>0$ $\qquad$ $(x+2)^2>0$

$x<-2 \quad x>5$ $\qquad$ $x\neq -2$

פתרון: $x<-2 \quad x>5$



$x<-2 \quad -2<x<4 \quad x>6$

פתרון: $x<-2 \quad x>6$