$\underline{1.77}$ $\underline{2}$ א $\left[\log_{x+6} 2\right] \log_2 (x^2-x-2) \ge 1$

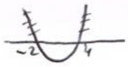
$\dfrac{\cancel{\log 2}}{\log(x+6)} \cdot \dfrac{\log\left[(x-2)(x+1)\right]}{\cancel{\log 2}} \ge 1$

$\log_{x+6}\left[(x-2)(x+1)\right] \ge 1$

עבור $x+6>1$
$x>-5$

$(x-2)(x+1) \ge x+6$

$x^2-2x-8 \ge 0$



$\boxed{\begin{matrix} x \ge 4 \\ \cancel{-5<} x \le -2 \end{matrix}}$

עבור $0<x+6<1$
$\boxed{-6<x<-5}$

$(x-2)(x+1) \le x+6$

$x^2-2x-8 \le 0$

$-2 \le x \le 4$

ϕ

$\underline{\text{תחום הגדרה}}$

$-5 \ne x > -6 \Leftarrow 1 \ne x+6 > 0$

 $\Leftarrow x^2-x-2>0$

$\begin{matrix} -5<x<-1 \\ -6<x<-5 \\ x>2 \end{matrix}$

$\boxed{\begin{matrix} x \ge 4 \\ -5<x \le -2 \end{matrix}}$

ב

$$y = \log_3\left(0.64^{2-\log_{\sqrt{2}} x} - 1.25^{8-\log_2^2 x}\right)$$

$0.64^{2-\log_{\sqrt{2}} x} - 1.25^{8-\log_2^2 x} > 0$

$\underline{\text{תחום הגדרה}}$
$x>0$

$\left(\frac{16}{25}\right)^{2-\log_{\sqrt{2}} x} > \left(\frac{5}{4}\right)^{8-\log_2^2 x}$

$\left(\frac{4}{5}\right)^{4-2\log_{\sqrt{2}} x} > \left(\frac{4}{5}\right)^{\log_2^2 x-8}$

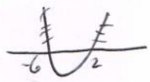
$4-2\log_{\sqrt{2}} x < \log_2^2 x - 8$

$4-\frac{2}{0.5}\log_2 x < \log_2^2 x - 8$

$4-4\log_2 x < \log_2^2 x - 8$

נסמן $\log_2 x = t$

$0 < t^2+4t-12$



$t<-6$

$\log_2 x < -6 \rightarrow x < 2^{-6}$

$\boxed{x < \frac{1}{64}}$

$t>2$

$\log_2 x > 2$

$\boxed{x>4}$