

$$\sqrt{\frac{x+2}{x}} - 2 \cdot 4^{\frac{1}{x}} \geq 3 \cdot 10^{\frac{1}{x}} \quad (D)$$

$$\sqrt{\frac{x+2}{x}} - 2 \cdot 4^{\frac{1}{x}} \leq -3 \cdot 10^{\frac{1}{x}} \quad \text{"ilc"}$$

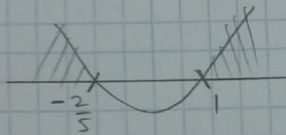
$$5^{1+\frac{2}{x}} - 2 \cdot 2^{\frac{2}{x}} - 3 \cdot 2^{\frac{1}{x}} \cdot 5^{\frac{1}{x}} \geq 0$$

$$\boxed{5b^2 - 3ab - 2a^2 \geq 0} \quad | : a^2$$

$$5\left(\frac{b}{a}\right)^2 - 3\left(\frac{b}{a}\right) - 2 \geq 0$$

$$\left(\frac{5}{2}\right)^{\frac{1}{x}} = \frac{b}{a} = t \quad (NO)$$

$$5t^2 - 3t - 2 \geq 0$$



$$t < -\frac{2}{5} \quad \text{"ilc"} \quad t > 1$$

$$\left(\frac{5}{2}\right)^{\frac{1}{x}} < -\frac{2}{5}$$

$$\boxed{\emptyset}$$

$$\left(\frac{5}{2}\right)^{\frac{1}{x}} > 1 = \left(\frac{5}{2}\right)^0$$

$$\frac{1}{x} > 0$$

$$\Rightarrow \boxed{x > 0}$$

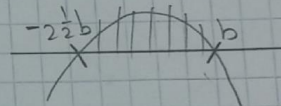
$$\sqrt{\frac{1}{x}} = b, \quad 2^{\frac{1}{x}} = a \quad (NO)$$

$$5 \cdot b^2 - 3ab - 2a^2 \geq 0$$

$$5b^2 - 5ab + 2ab - 2a^2 \geq 0$$

$$5b(b-a) + 2a(b-a) \geq 0$$

$$(5b+2a)(b-a) \geq 0$$



$$2^{\frac{1}{x}} < 5^{\frac{1}{x}} \quad | : 5^{\frac{1}{x}} \quad (a < b)$$

$$\left(\frac{2}{5}\right)^{\frac{1}{x}} < \left(\frac{2}{5}\right)^0$$

$$\boxed{\frac{1}{x} > 0} \Rightarrow \boxed{x > 0}$$

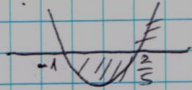
$$5 \cdot \frac{x+2}{x} - 2 \cdot 4 \cdot \frac{1}{x} \leq -3 \cdot 10 \cdot \frac{1}{x} \quad \text{r/c}$$

הפונקציה  $f(x) = (2/x)^2$  היא פונקציה יורדת, ולכן הפונקציה  $f(x) = (2/x)^2$  היא פונקציה יורדת.

$$5 \cdot \left(\frac{x}{2}\right)^{\frac{2}{x}} + 3 \cdot \left(\frac{x}{2}\right)^{\frac{1}{x}} - 2 \leq 0 \quad \text{r/c}$$

$$t = \left(\frac{x}{2}\right)^{\frac{1}{x}} \quad \text{r/c}$$

$$5t^2 + 3t - 2 \leq 0$$



$$-1 \leq t \leq \frac{2}{5}$$

$$-1 \leq \left(\frac{x}{2}\right)^{\frac{1}{x}} \leq \frac{2}{5}$$

x > 0

$$\left(\frac{x}{2}\right)^{\frac{1}{x}} \leq \left(\frac{x}{2}\right)^{-1}$$

$$\frac{1}{x} \leq -1$$

$$\frac{1+x}{x} \leq 0$$

$$\frac{1+x}{x} \leq 0$$

$$\boxed{-1 \leq x < 0}$$

$$-1 \leq x < 0 \quad x > 0 \quad \text{r/c} \quad \text{הפונקציה היא פונקציה יורדת}$$