

مسائل حل شده
 به نام آنگه جان در قدرت است
 نواز هم لیر ۲۰۰

$$\lim_{x \rightarrow 2} \frac{x^2 - 4}{x^2 + 4x + 4} = \frac{-1}{4} \rightarrow \infty \rightarrow x^2 + 4x + 4 = 0 \rightarrow (x+2)^2 = 0 \rightarrow x = -2$$

خرج = ۰

$$\lim_{x \rightarrow \sqrt[3]{a}} \frac{x^3 - a}{x^2 + 4x + 4} = +\infty \rightarrow \frac{\sqrt[3]{a^3} - a}{(\sqrt[3]{a})^2 + 4\sqrt[3]{a} + 4} \rightarrow 0 = x^2 + 4x + 4$$

$$(x - \sqrt[3]{a})^2 = x^2 - 2\sqrt[3]{a}x + \sqrt[3]{a^2} \rightarrow \left[\frac{b}{a} \right] = \left[\frac{\sqrt[3]{a^2}}{-2\sqrt[3]{a}} \right] \rightarrow$$

$$\left[\frac{\sqrt[3]{-1}}{2} \right] = -1$$

$$\lim_{x \rightarrow \frac{1}{\sqrt[3]{a}}} \frac{(-x) + a}{\left| \frac{\sqrt[3]{a}}{x} + a \right| + a} = -\infty \rightarrow \frac{\lim a - 1}{\left| \frac{1}{\sqrt[3]{a}} + a \right| + a} = -\infty$$

خرج = ۰ $\rightarrow \frac{1}{\sqrt[3]{a}} + a + a = 0 \rightarrow a = -\frac{1}{\sqrt[3]{a}} \rightarrow (a) = -1$

$$x > -\frac{1}{\sqrt[3]{a}} \rightarrow x^2 < \frac{1}{\sqrt[3]{a^2}} \rightarrow \frac{1}{x^2} > \sqrt[3]{a^2} \rightarrow \frac{-2}{x^2} < -1$$

$$x < -\frac{1}{\sqrt[3]{a}} \rightarrow x^2 > \frac{1}{\sqrt[3]{a^2}} \rightarrow \frac{1}{x^2} < \sqrt[3]{a^2} \rightarrow \frac{3}{x^2} > 1 \Rightarrow \lim_{x \rightarrow (-\frac{1}{\sqrt[3]{a}})^+} \frac{-1 + 9}{-12 + 12} = \frac{-1 + 9}{-12 + 12}$$

$$\frac{0}{0} = \lim_{x \rightarrow 2^+} \frac{x^2 - 4}{x^3 - 1} = \lim_{x \rightarrow 2^+} \frac{(x-2)(x+2)}{(x-1)(x^2 + 2x + 1)} = \frac{1}{3}$$

$$\frac{0}{0} = \lim_{x \rightarrow -1} \frac{x^2 + 1 \cdot x + 1}{1 + 4\sqrt[3]{x}} \xrightarrow{\text{Hop}} \lim_{x \rightarrow -1} \frac{(x+1) \cdot 3}{4} = \frac{-1}{4}$$