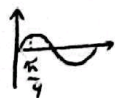
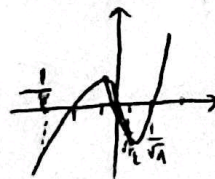


$$\begin{aligned} & \begin{cases} \left[ \frac{r_1 + r_1^+}{r} \right] = 1 \\ \left[ \frac{-r_1^+ + r_1}{r} \right] = 0 \end{cases} \quad \left\{ \begin{array}{l} r_1 x_1 + a x_0 = r \\ r_1 x_1 - a x_0 = r \end{array} \right. \quad \left[ \frac{a}{r} \right] = \left[ \frac{r}{r} \right] = 0 \quad \text{صفت مول را با (صفت) بنویس} \\ & \begin{cases} \left[ \frac{r_2 + r_2^+}{r} \right] = r \\ \left[ \frac{-r_2^+ + r_2}{r} \right] = -1 \end{cases} \quad \left\{ \begin{array}{l} r_2 x_2 - a = r \\ r_2 x_2 - a = r \end{array} \right. \rightarrow \boxed{a = r} \quad \checkmark \end{aligned}$$

$$\lim_{x \rightarrow (\frac{\pi}{4})^-} [r \sin x - 1] = [r \times (\frac{1}{r}) - 1] = [1 - 1] = \underline{\underline{0}}$$

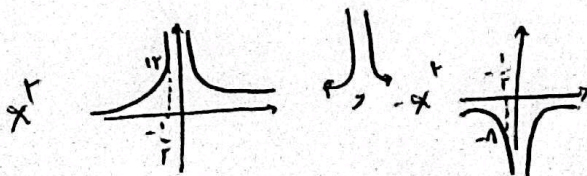


$$f(x) = x^r - 1 \rightarrow \frac{-\frac{1}{x^2}}{-\frac{1}{x^2} + \frac{1}{x^2}}$$



$$\lim_{x \rightarrow -\frac{1}{e}} \left[ -\frac{1}{x} + \frac{1}{x} \right] = (-1)$$

$$\lim_{x \rightarrow 1} \frac{1 \cdot x - 1 + \frac{1}{x^2}}{1 \cdot x - \left[-\frac{1}{x^2}\right]} = \frac{-1 + 1}{-1 + 1} = \frac{0}{0} = \text{indeterminate}$$



$$\lim_{x \rightarrow 1^+} \frac{\sin^2 \pi x}{1 + \cos \pi x} \xrightarrow[\text{HOP}]{\div \rightarrow \text{L'Hôpital}} \frac{r \cos \pi x \sin \pi x}{-\sin \pi x} = -r x (-1) = \boxed{r}$$

$$\lim_{x \rightarrow -1} \frac{\sqrt{x+2} - \sqrt{x+1}}{1 + \sqrt{x}} \xrightarrow{\frac{0}{0}} \frac{\frac{1}{2\sqrt{x+2}} - \frac{1}{2\sqrt{x+1}}}{-\frac{1}{2\sqrt{x}}} = \frac{\frac{1}{2} \left( \frac{1}{\sqrt{x+2}} - \frac{1}{\sqrt{x+1}} \right)}{-\frac{1}{2\sqrt{x}}} = \frac{1}{2} \left( \frac{1}{\sqrt{x+2}} - \frac{1}{\sqrt{x+1}} \right) \cdot (-2\sqrt{x})$$

$$\lim_{x \rightarrow 1} \frac{2x - \sqrt{x} + a}{2x - \sqrt{x+1}} \xrightarrow{\frac{0}{0}} \frac{2 - \frac{1}{2\sqrt{x}}}{2 - \frac{1}{2\sqrt{x+1}}} = \frac{2 - \frac{1}{2}}{2 - \frac{1}{2}} = \frac{\frac{3}{2}}{\frac{3}{2}} = 1$$

$$\lim_{x \rightarrow 0} \frac{a + \sqrt{bx+c}}{x} = \frac{0}{0} \xrightarrow{\text{Hop}} \frac{b}{2\sqrt{bx+c}} = \frac{1}{2\sqrt{c}} \rightarrow 2b = \sqrt{c} \rightarrow 4b^2 = c$$

→ ... →  $-a = \sqrt{bx+c} - \sqrt{c} = -a \rightarrow a = \sqrt{c}$

$$\frac{ab}{c} = \frac{1}{2} \times \frac{\sqrt{c}}{c} = \frac{1}{2\sqrt{c}}$$

$$-r_k \left( \frac{r-r_k}{r-r_k} \right) = \frac{r-r_k}{r-r_k} \rightarrow r-r_k > 0 \rightarrow r > k$$

$$\lim_{x \rightarrow 1} \frac{b\sqrt{x+2} - 2b}{ax-b} \xrightarrow{\frac{0}{0}} \frac{b}{a} = \frac{1}{4}$$

صورت منفرست می‌شود  
چون مقادیر مثل غیر صفر  
فرستاده شده باید خارج هم منفرست می‌شود

$1a - b = 0 \rightarrow 1a = b$

$b = 1a$   
 $x = 1$

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