

$$\lim_{x \rightarrow 1} \frac{\sqrt{x} - \sqrt{x+2}}{x^2 - x + 2} = \frac{0}{0} \text{ مبر } = \frac{(x-1)(\sqrt{x}-\sqrt{x+2})}{(x-1)(x+2)} = \frac{1}{2} \quad -1$$

$$\lim_{x \rightarrow 0} \frac{|x-1| - |x+1|}{x} = \frac{0}{0} \text{ مبر } = \frac{x-1-x-1}{x} = -\frac{2}{x} = -2 \quad -2$$

$$\lim_{x \rightarrow 2} \frac{x-2}{\sqrt{x}-2} = \frac{0}{0} \text{ مبر } = \frac{(\sqrt{x}-2)(\sqrt{x}+2)}{\sqrt{x}-2} = 2 \quad -3$$

$$\lim_{x \rightarrow 2} \frac{x-\sqrt{x}}{x^2-x-2} = \frac{0}{0} \text{ مبر } = \frac{\frac{0}{0} \times \frac{2}{2}}{\frac{0}{0} \times \frac{2}{2}} = \frac{x-\sqrt{x}}{(x-2)(x+2)} = \frac{x}{2(x+2)} = \frac{2}{2 \times 4} = \frac{1}{4} \quad -4$$

$$\lim_{x \rightarrow 1} \frac{1-\sqrt{x}}{2-\sqrt{x}-x} = \frac{0}{0} \text{ مبر } = \frac{\frac{0}{0} \times \frac{2}{2}}{\frac{0}{0} \times \frac{2}{2}} = \frac{1-x}{2-x-x} \times \frac{2}{2} = -2 \quad -5$$

$$\lim_{x \rightarrow 2} \frac{\sqrt{x+1}-1}{\sqrt{x+2}-2} = \frac{0}{0} \text{ مبر } = \frac{\frac{0}{0} \times \frac{2}{2}}{\frac{0}{0} \times \frac{2}{2}} = \frac{\sqrt{x+1}-1}{x+2-2\sqrt{x+2}} \times \frac{2\sqrt{x+2}}{2\sqrt{x+2}} = \frac{2}{2} \times \frac{2\sqrt{x+2}}{2\sqrt{x+2}} = \frac{1}{2} \quad -6$$

$$\lim_{x \rightarrow 1} \frac{\sqrt{x+2}-1}{\sqrt{x}-1} = \frac{0}{0} \text{ مبر } = \frac{\frac{0}{0} \times \frac{2}{2}}{\frac{0}{0} \times \frac{2}{2}} = \frac{\sqrt{x+2}-1}{x-1} \times \frac{2}{2} \xrightarrow{h.p} \frac{2+\frac{1}{2\sqrt{x}}}{1} \times \frac{2}{2} = \frac{2}{2} \times \frac{2}{2} = \frac{2}{1} \quad -7$$

$$\lim_{x \rightarrow \pi} \frac{4 \cos^2 x}{\sin^2 x - 1 - \cos x} = \frac{0}{0} \text{ مبر } = \frac{(1+\cos x)(1+\cos^2 x - \cos x)}{(1-\cos x)(1+\cos x)} = \frac{1+1+1}{2} = \frac{3}{2} \quad -8$$

$$\lim_{x \rightarrow \frac{\pi}{4}} \frac{1-\tan x}{\sin x - \cos x} = \frac{0}{0} \text{ مبر } = \frac{\cos x - \sin x}{\cos x (\sin x - \cos x)} = \frac{-1}{\cos x} = \frac{-1}{\frac{\sqrt{2}}{2}} = -\sqrt{2} \quad -9$$

$$\lim_{n \rightarrow \frac{\pi}{2}} \frac{\tan n - 1}{\cos n} = \frac{0}{0} \text{ use } = \frac{\sin n - \cos n}{\cos n (\cos n - \sin n)} = \frac{-1}{\cos n} = \frac{-1}{\frac{1}{\sqrt{2}}} = -\sqrt{2}$$

-1.