۱- $\text{hop} \to \frac{۸x-۷}{۱۰x-۸} \xrightarrow{x=۱} \boxed{\frac{۱}{۲}}$

۲- $\frac{-۳x+۱-۳x-۱}{x} = \frac{-۶x}{x} = \boxed{-۶}$

۳- $\frac{x-۴}{\sqrt{x}-۲} = \frac{(\sqrt{x}-۲)(\sqrt{x}+۲)}{\sqrt{x}-۲} = \sqrt{x}+۲ = ۲+۲ = \boxed{۴}$

۴- $\text{hop} \to \frac{۱-\frac{۲}{۲\sqrt{۲x}}}{۴x-۱} = \frac{۱-\frac{۱}{۲}}{۸-۱} = \boxed{\frac{۱}{۱۴}}$

۵- $\lim_{x\to ۱} \frac{۱-\sqrt{x}}{۲-\sqrt{۵-x}} \times \frac{۲}{۲} = \frac{۱-x}{۴-۵+x} \times \frac{۲}{۲} = \boxed{-۲}$

۶- $\lim_{x\to ۴} \frac{\sqrt{۳x+۴}-۴}{\sqrt[۳]{۵x+۷}-۳} \times \frac{۲}{۲} = \frac{۳x+۴-۱۶}{۵x+۷-۲۷} = \frac{۳x-۱۲}{۵x-۲۰}$

$= \frac{۳(x-۴)}{۵(x-۴)} \overset{x}{=} \frac{۳۷}{۸} = \boxed{\frac{۸۱}{۴۰}}$

۷- $\text{hop} \to \frac{۳+\frac{۱}{۲\sqrt{x}}}{\frac{۲\sqrt{۳x+\sqrt{x}}}{۳\sqrt[۳]{x^۲}}} = \frac{\frac{۷}{۸}}{\frac{۱}{۳}} = \frac{۲۱}{۸}$

۸- $\lim_{x\to \pi} \frac{۱+\cos^۳x}{\sin^۲x} = \frac{(۱+\cos x)(۱+\cos^۲x-\cos x)}{۱-\cos^۲x}$

$= \frac{(۱+\cos x)(۱+\cos^۲x-\cos x)}{(۱-\cos x)(۱+\cos x)} = \frac{۳}{۲}$

۹- $\lim_{x\to \frac{\pi}{۴}} \frac{۱-\tan x}{\sin x-\cos x} = \frac{۱-۱}{\frac{\sqrt{۲}}{۲}-\frac{\sqrt{۲}}{۲}} = \frac{۰}{۰}$

$\Rightarrow \frac{\frac{\cos x-\sin x}{\cos x}}{\sin x-\cos x} = \frac{-۱}{\cos x} = \frac{-۱}{\frac{\sqrt{۲}}{۲}} = \boxed{-\sqrt{۲}}$

۱۰- $\lim_{x\to \frac{۳\pi}{۴}} \frac{\sin^۲x-\cos^۲x}{\cos^۲x-\sin^۲x} = \frac{-۱}{\cos^۲x} = \frac{-۱}{\frac{۱}{۲}} = -۲$