۱) $\lim_{x\to 1}\frac{4x^2-7x+3}{5x^2-8x+3}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{4(x-1)(x-\frac{3}{4})}{5(x-1)(x-\frac{3}{5})}=\frac{-\frac{3}{4}}{-\frac{2}{5}}\times\frac{\frac{1}{4}}{\frac{2}{5}}=\boxed{\frac{1}{2}}$ ✓ (۲)

۲) $\lim_{x\to 0}\frac{|3x-1|-|3x+1|}{x}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{-3x-1-3x+1}{x}=\frac{-6x}{x}=\boxed{-6}$ ✓ (۲)

۳) $\lim_{x\to 4}\frac{x-4}{\sqrt{x}-2}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{(\sqrt{x}-2)(\sqrt{x}+2)}{\sqrt{x}-2}=\boxed{4}$ ✓ (۲)

۴) $\lim_{x\to 2}\frac{x-\sqrt{2x}}{2x^2-x-6}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{1-\frac{2}{2\sqrt{2x}}}{4x-1}=\frac{\frac{1}{2}}{7}=\boxed{\frac{1}{14}}$ ✓ (۲)

۵) $\lim_{x\to 1}\frac{1-\sqrt{x}}{1-\sqrt{5-x}}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{-\frac{1}{2\sqrt{x}}}{+\frac{-1}{2\sqrt{5-x}}}=-\frac{1}{\frac{1}{2}}=\boxed{-2}$ ✓ (۲)

۶) $\lim_{x\to 4}\frac{\sqrt{3x+4}-4}{\sqrt[3]{5x+7}-3}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{\sqrt{3x+4}-4}{\sqrt[3]{5x+7}-3}\times\frac{\text{صورت}}{\text{صورت}}\times\frac{\text{مخرج}}{\text{مخرج}}\xrightarrow{\text{HOP}}$ (۲)

$a=\sqrt{3x+4}-4$, $b=\sqrt[3]{5x+7}-3$

$\frac{3}{5}\times\frac{3b^2}{2a}=\frac{3}{5}\times\frac{27}{8}=\boxed{\frac{81}{40}}$ ✓

۷) $\lim_{x\to 1}\frac{\sqrt[3]{3x+\sqrt{x}}-2}{\sqrt[3]{x}-1}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{\sqrt[3]{3x+\sqrt{x}}-2}{\sqrt[3]{x}-1}\times\frac{\text{صورت}}{\text{صورت}}\times\frac{\text{مخرج}}{\text{مخرج}}$ (۲)

$\longrightarrow\frac{3x+\sqrt{x}-4}{x-1}\times\frac{3}{4}\xrightarrow{\text{meow}}\frac{3+\frac{1}{2\sqrt{x}}}{1}\times\frac{3}{4}=(3+\frac{1}{2})\frac{3}{4}=\boxed{\frac{21}{8}}$ ✓

۸) $\lim_{x\to\pi}\frac{1+\cos x}{\sin^2 x}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{(1+\cos x)(1-\cos x+\cos^2 x)}{1-\cos^3 x}=\frac{+3}{+2}=\boxed{\frac{3}{2}}$ ✓ (۲)

$1-\cos^3 x=(1-\cos x)(1+\cos x)$

۹) $\lim_{x\to\frac{\pi}{4}}\frac{1-\tan x}{\sin x-\cos x}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{\frac{\cos x-\sin x}{\cos x}}{\sin x-\cos x}=\frac{-1}{\cos x}=\boxed{-\sqrt{2}}$ ✓ (۲)

۱۰) $\lim_{x\to\frac{3\pi}{4}}\frac{\tan^2 x-1}{\cos 2x}\longrightarrow\frac{0}{0}\overset{\text{رفع ابهام}}{\Rightarrow}\frac{\frac{\sin^2 x}{\cos^2 x}-\frac{\cos^2 x}{\cos^2 x}}{\cos^2 x-\sin^2 x}=\frac{-1}{\cos^2 x}=\boxed{-2}$ ✓ (۲)