شمارهٔ تکلیف : 3C کلاس : یازدهم دختر A نام : فاطمه شیخی

$$\lim_{x\to 1} \frac{4x^2-7x+3}{5x^2-8x+3} = \frac{0}{0}\ \text{(مبهم)} \xrightarrow{\text{رفع ابهام}} \frac{(4x-3)(x-1)}{(5x-3)(x-1)} = \frac{4x-3}{5x-1} \xrightarrow{x=1} \boxed{\frac{1}{2}}$$ 1

$$\frac{0}{0} \xrightarrow{\text{رفع ابهام}} \Rightarrow$$ 2

$$\frac{0}{0} \xrightarrow{\text{رفع ابهام}} \frac{(\sqrt{x}-2)(\sqrt{x}+2)}{\sqrt{x}-2} = \sqrt{x}+2 \xrightarrow{x=4} 2+2 = \boxed{4}$$ 3

$$\frac{0}{0} \xrightarrow{\text{رفع ابهام}} \frac{x-\sqrt{2x}}{2x^2-x-6} \times \frac{x+\sqrt{2x}}{x+\sqrt{2x}} = \frac{x^2-2x}{2x^2-x-6} \times \frac{1}{4} \Rightarrow \frac{x(x-2)}{(x-2)(2x+3)} \times \frac{1}{4} \xrightarrow{x=2}$$

$$\frac{2}{7} \times \frac{1}{4} = \boxed{\frac{1}{14}}$$ 4

$\frac{0}{0} \xrightarrow{\text{رفع ابهام}}$ ~~(crossed-out work)~~ 5

Hop →

$$\frac{-\frac{1}{2\sqrt{x}}}{\frac{1}{2\sqrt{5-x}}} \xrightarrow{x=1} \frac{-\frac{1}{2}}{\frac{1}{4}} = \boxed{-2}$$

6

$\frac{0}{0} \xrightarrow[\text{ابهام}]{\text{رفع}} \frac{\sqrt{3x+4}-4}{\sqrt[3]{5x+7}-3} \times \frac{\sqrt{3x+4}+4}{\sqrt{3x+4}+4} \times \frac{\sqrt[3]{(5x+7)^2}+9+3\sqrt[3]{5x+7}}{\sqrt[3]{(5x+7)^2}+9+3\sqrt[3]{5x+7}} = \frac{3x+4-16}{5x+7-27} \times \frac{9}{8} =$

$\frac{3(x-4)}{5(x-4)} \times \frac{9}{8} = \frac{3}{5} \times \frac{9}{8} = \boxed{\frac{27}{40}}$

7

$\frac{0}{0} \xrightarrow{\text{"}} \frac{3x+\sqrt{x}-4}{x-1} \times \frac{1}{4} \xrightarrow{hop} \frac{3+\frac{1}{2\sqrt{x}}}{1} \times \frac{1}{4} \xrightarrow{x=1} (3+\frac{1}{2}) \times \frac{1}{4} = \frac{7}{2} \times \frac{1}{4} =$

$\boxed{\frac{7}{8}}$

8

$\frac{0}{0} \to \underset{\text{ابهام}}{\text{رفع}} \to \frac{(1+\cos x)(1+\cos^2 x \mp \cos x)}{(1-\cos^2 x)} = \frac{(1+\cos^2 x - \cos x)}{1-\cos x} \xrightarrow{x=\pi} \frac{1+(-1)^2-(-1)}{1-(-1)} =$

$(1-\cos^2 x) \downarrow (1-\cos x)(1+\cos x)$

$\boxed{\frac{3}{2}}$

9

ok $\frac{0}{0} \xrightarrow[\text{ابهام}]{\text{رفع}} \frac{1-\frac{\sin x}{\cos x}}{\sin x-\cos x} = \frac{\frac{\cos x-\sin x}{\cos x}}{-(\cos x-\sin x)} = \frac{-1}{\cos x} \xrightarrow{x=\frac{\pi}{4}} \frac{-1}{\frac{\sqrt{2}}{2}} = -\frac{2}{\sqrt{2}} = \boxed{-\sqrt{2}}$

جواب

10

$\frac{0}{0} \xrightarrow[\text{ابهام}]{\text{رفع}} \frac{\frac{\sin^2 x}{\cos^2 x}-1}{\cos 2x} = \frac{\frac{\sin^2 x-\cos^2 x}{\cos^2 x}}{\cos^2 x-\sin^2 x} = \frac{-1}{\cos^2(\frac{3\pi}{4})} = \frac{-1}{(\frac{\sqrt{2}}{2})^2} = \frac{-1}{\frac{1}{2}} =$

-2