نام و نام خانوادگی ..... پاسخنامه تشریحی تکلیف شماره ۳۰۵ ..... کلاس .....A.....

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$$x=1 \longrightarrow \frac{10x-7}{100x-8}=\frac{1}{2}$$

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$$x=0 \longrightarrow \frac{1-3x-3x^2-1}{x}=\frac{-9x}{x}=-9$$

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$$\frac{x-4}{\sqrt{x}-2}=\frac{(\sqrt{x}-2)(\sqrt{x}+2)}{\sqrt{x}-2} \xrightarrow{x=4} 2+2=4$$

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$$\frac{x-\sqrt{3x}}{3x^2-x-9}=\frac{x^2-3x}{3x^2-x-9}\times\frac{1}{4}=\frac{x(x-3)}{(x-1)(3x+3)}\times\frac{1}{4}=\frac{2}{12}=\frac{1}{12}$$

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$$\frac{1-\sqrt{x}}{2-\sqrt{5-x}}=\frac{1-x}{4-5+x}\times\frac{4}{2}=-2$$

$$\frac{\sqrt{3x+6}-3}{\sqrt[3]{x+7}-2} = \frac{3x+6-9}{x+7-8} \times \frac{8}{7} = \frac{3}{1} \times \frac{8}{7} = \frac{24}{7}$$

$$\frac{\sqrt{3x+\sqrt{x}}-2}{\sqrt[3]{x}-1} = \frac{3x+\sqrt{x}-6}{x-1} \times \frac{3}{6} = \frac{3t^2+t-6}{t^2-1} \times \frac{3}{6} = \frac{11}{8}$$

$$\frac{1+\cos^3 x}{\sin^2 x} = \frac{1+\cos^2 x}{1-\cos^2 x} = \frac{(1+\cos x)(1-\cos x+\cos^2 x)}{(1-\cos x)(1+\cos x)} = \frac{3}{2}$$

$$\frac{1-\tan x}{\sin x-\cos x} = \frac{1-\frac{\sin x}{\cos x}}{\sin x-\cos x} = \frac{\frac{\cos x-\sin x}{\cos x}}{\sin x-\cos x} = -\frac{1}{\cos x} = -\sqrt{2}$$

$$\frac{\tan^2 x-1}{\cos 2x} = \frac{(\tan x-1)(\tan x+1)}{\cos 2x} = \frac{\left(\frac{\sin x}{\cos x}-1\right)\left(\frac{\sin x}{\cos x}+1\right)}{\cos^2 x-\sin^2 x}$$

$$\frac{\left(\frac{\sin x-\cos x}{\cos x}\right)\left(\frac{\sin x+\cos x}{\cos x}\right)}{1(\cos x-\sin x)(\cos x+\sin x)} = -\frac{1}{\cos^2 x} = -2$$