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یازدهم ر A　　　　تکلیف شماره ۲۱　　　　ایلیا ملکی

$4x^2+(m+4)x+\frac{m}{2} \Rightarrow m^2+16+8m-24m+9=0 \Rightarrow m=4$ ۱-

$2a^3+a^2=0 \Rightarrow a=-\frac{1}{2}$ $\lim_{x\to-\frac{1}{2}} \frac{\sqrt{4}\,|a+\frac{1}{2}|}{|2x^3+\frac{1}{4}|}=2\sqrt{3}\tan b$

$\Rightarrow \tan b=\frac{\sqrt{3}}{3} \Rightarrow b=\frac{\pi}{6}$

$x\to 1 \Rightarrow$ صفر صفر $f(x)=\frac{x^2+ax+b}{x-1} \Rightarrow a+b=-1$ (1) ۲-

$5x^2-ax+b=0 \Rightarrow x=1 \Rightarrow a-b=5$ (2) (1), (2) $\Rightarrow a=2,\ b=-3$

$\Rightarrow \left[\frac{-3-4}{3}\right]=-3$

$x=1,\ x=5 \Rightarrow$ قائم $\Rightarrow x=1 \rightarrow \tan\frac{3\pi}{4}=\lim_{x\to1^+}\frac{|x^2+x-2|}{a(1-x)}$ ۳-

$=\lim_{x\to1^+}\frac{(x+2)(x-1)}{a(1-x)} \Rightarrow \frac{3}{-a}=-1 \Rightarrow a=3$

$x=5 \Rightarrow \lim \frac{|x^2+x-2|}{a(1-x)}=4b \Rightarrow 4b=\frac{28}{-12} \Rightarrow b=\frac{-7}{12}$

$3\times-\frac{7}{12}=-\frac{7}{4}$

$f(x)=a[x+1]+b[x+[a+1]]=a[x]+a+b[x]+b+b[a]$ ۴-

$\Rightarrow a=-b \Rightarrow f(x)=b[a],\ f(a)=b[a] \Rightarrow \frac{a[a]}{f(a)}$

$=\frac{a\cdot[a]}{b[a]}=\frac{a}{b}=1$

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۵- ضمن بیانات مدرج ← تابع اکیداً ... ←

$f(x) = -2a \quad f(b) = -2a$

$\Rightarrow \frac{a}{f(b)} = \frac{a}{-2a} = -\frac{1}{2}$

۶- $\lim_{x \to a} f(x) = f(a) = 2 \to \lim_{x \to a} \frac{x^2+mx+n}{a-x} = \lim \frac{(x-a)(x-2a)}{-(x-a)} = a$

$\Rightarrow a = 2 \quad (x-2)(x-4) = x^2-6x+8 = x^2+mx+n \Rightarrow m = -6$

$n = 8$

$\Rightarrow n - m = 8 + 6 = 14$

← ۸ و ۷ رو جابجا نوشتم

۷) $x = 1^+ \Rightarrow \frac{|x^2+mx-m-1|}{m|(x-1)|[(x+1)]+|x-1|} = \frac{|(x-1)(x+m+1)|}{m|(x-1)|[(x+1)]+|x-1|} = \frac{2+m}{2m+1}$

$= \frac{m}{m+2} \Rightarrow m^2+4+4m = 2m^2+m \Rightarrow m^2-3m-4=0 \to m=-1$ غقق

$\to m = 4$

$\lim \frac{|x^2+4x-5|}{4|x^2-1|+|x-1|} = \frac{\frac{63}{16}}{\frac{18}{4}} = \frac{7}{8}$ ← جواب

۸) ← ۸ و ۷ رو جابجا نوشتم ها: جواب سوال ۷:

if $x \to 0$: $0^- \to a-1$; $0 \to b\sin\left(\frac{x}{a}\right)$; $0^+ \to 1-3a^2$ $\Rightarrow a-1 = 1-3a^2 \Rightarrow a=-1$ غقق

$\Rightarrow a = \frac{2}{3}$

$\Rightarrow a = \frac{2}{3} \Rightarrow b\sin\left(\frac{3x}{2}\right) \Rightarrow b = \frac{1}{3} \Rightarrow \frac{a}{b} = \frac{\frac{2}{3}}{\frac{1}{3}} = 2$

۹- $(x \to -1)$ $-1+2-m+1=0 \Rightarrow m=2$

$a^2+a=0 \to a=-1$; $a=0 \to$ غقق

$\lim_{x \to -1} f(x) = \frac{\sqrt{3}\,|-x-1|}{|x^3+1|} = \frac{\sqrt{3}\,|x+1|}{|x+1||x^2-x+1|} = \frac{\sqrt{3}}{3} = \frac{1}{\sqrt{3}}$

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$$\lim_{x\to 0} f(x) = \frac{\ln(|x|+1)}{\ln(|x|+a)} = \frac{2a-1}{2a+2} \to \frac{1}{a} = \frac{2a-1}{2a+2} \Rightarrow \text{...}$$

$$2a+2 = 2a^2 - a \Rightarrow 2a^2 - 3a - 2 = 0 \Rightarrow a = 2 \quad \text{or} \quad a = -\frac{1}{2}$$

$$\Rightarrow \lim_{x\to -\frac{1}{2}} f(x) = \frac{\ln(|x|+1)}{\ln(|x|+2)} = \frac{\frac{4}{2}}{\frac{5}{2}} = \frac{4}{5}$$