نام و نام خانوادگی: امیرمحمد نادران‌صفی — پاسخنامه تشریحی تکلیف شماره ۲۲ — کلاس: دوازدهم ریاضی B

پیوستگی $\rightarrow a+1=b \rightarrow a-b=-1 \quad a-\frac{3}{2}=-1 \quad a=\frac{1}{2}$

مشتق $\rightarrow \frac{2x}{2\sqrt{x^2}} = b\times\frac{2x}{3\sqrt[3]{x^4}} \rightarrow \frac{1}{2} = b\times\frac{1}{3} \rightarrow b=\frac{1}{2}\times 3=\frac{3}{2}$

$a+b=\frac{3}{2}+\frac{1}{2}=\frac{4}{2}=\boxed{2}$

$f(x)\rightarrow \frac{-2x+4}{\sqrt[3]{x^2}} \qquad g(x)\rightarrow \frac{|x-2|+\sqrt{3x}}{\sqrt[3]{x^2}} = \frac{-x+2+\sqrt{3x}}{\sqrt[3]{x^2}} \qquad \frac{2}{3}(\sqrt{3}-1)$

$\left(\frac{\cancel{(-2)(\sqrt[3]{x^2})}-\left(\frac{2x}{3\sqrt[3]{x^4}}\right)(-2x+4)}{\sqrt[3]{x^4}}\right) - 2\times\left(\frac{\cancel{\left(\frac{3}{2\sqrt{3x}}-1\right)(\sqrt[3]{x^2})}-\left(\frac{2x}{3\sqrt[3]{x^4}}\right)(\sqrt{3x}-x+2)}{\sqrt[3]{x^4}}\right)$

جواب $\leftarrow \boxed{\frac{-6-4\sqrt{3}}{3}}$ ۲

پیوستگی $\rightarrow ab+c=\frac{1}{a} \rightarrow c=\frac{1}{a}+(a)\times\frac{1}{a^2} = c=\frac{2}{a}$

مشتق $\rightarrow b=-\frac{1}{a^2}$

$\boxed{ac=2}$ ۳

$f'_-(a)=0 \qquad f'_+(a) \qquad f'_+\neq f'_- \qquad f'(x)=m(x-a)^{m-1}$

$x\geq a$

$\boxed{m=1}$ یا $\boxed{m=0}$ ۴

$g'(-\sqrt[3]{2})\times f'(g(-\sqrt[3]{2})) = (f\circ g)'(-\sqrt[3]{2})$

$\frac{1}{2x^3}\rightarrow(2x^3)^{-1}$

$(-1)(6x^2)(2x^3)^{-2}$ ۵

$(-1)($

$y = -ax - 5$ $\qquad f(3) = -3a - 5 \qquad -a + 3a + 5 = 2 \rightarrow 2a + 5 = 2$

$f'(3) = -a = \frac{3}{2} \qquad = -3 \times \frac{3}{2} - 5 = -\frac{1}{2} \qquad 2a = -3$

$\frac{9}{2} \quad \frac{3}{2} \quad -\frac{1}{2} \qquad a = -\frac{3}{2}$

$$\frac{f(3)}{f'(3)} = \frac{-\frac{1}{2}}{\frac{3}{2}} = \boxed{-\frac{1}{3}}$$ ۶

$g' \times f'(g) = (f \circ g)' \qquad g'\left(\frac{3}{\sqrt{8}}\right) \times f'(2) = -\frac{1}{3} \times 2 \times \frac{3}{2\sqrt{2}} \times 16 \times 2 \times 4 \times 2 = -2 \times 3\sqrt{2}$

$g' = (x^3 - 1)^{-\frac{1}{3}} = -\frac{1}{3}(3x)(x^3-1)^{-\frac{4}{3}}$

$f' = (x+4)^2 + 1 = 2 \times 4 \times (x+4) \qquad g\left(\frac{3}{3x}\right) = 2 \qquad \frac{-2 \times 3\sqrt{2}}{-2^7 \times \sqrt{2}} = \boxed{3}$ ۷

$g(x) = f(x+1) + f(3x+10)$

$g(-2) = f(-1) + f(4) \longrightarrow g'(-2) = 4 \times f'(-1) = \boxed{3}$ ۸

$f(-1) \qquad \frac{3}{4}$

$$\lim_{h \to 0} \frac{f^3(5-h) - 3f(5-h) + 2}{h(5-h)} = \frac{-3f(5) + 3f(5)}{5} = \frac{f(5)}{5} = \frac{2}{5} = \boxed{\frac{4}{10}}$$ ۹

$2y = 1 + 3x \longrightarrow$ شیب $= \frac{1}{2} = m_1 \qquad m_1 m_2 = -1 \longrightarrow m_2 = -2$

$f' = 2x - 4 \qquad 2x - 4 = -2 \qquad \boxed{x = 1}$

$\boxed{y = 2}$ ۱۰