

$$a + 1 = b$$

$$f(x) = \begin{cases} a + |x| \\ b \sqrt[3]{x^2} \end{cases}$$

پس در اینست و در است
دقیقه مکمل دار
است

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

$$\frac{2}{2} = b \times \frac{2}{3}$$

$$b = \frac{3}{2} \Rightarrow a = \frac{1}{2}$$

$$f'(x) = -2(\sqrt[3]{x^2}) - (2-4x) \left(\frac{4x}{3\sqrt[3]{(x^2)^2}} \right) \quad x < 2$$

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

$$g'(x) = \frac{\sqrt[3]{(x^2)^2}}{\sqrt[3]{(x^2)^2}}$$

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

$$\Rightarrow \frac{-3-1-2\sqrt[3]{3}}{4\sqrt[3]{3}} \Rightarrow -\frac{1}{3} + 2 \left(\frac{3+1-2\sqrt[3]{3}}{4\sqrt[3]{3}} \right) = \left(\frac{\sqrt[3]{3}}{3} \right)$$

$$ab + c = \frac{1}{a} \quad b = -\frac{1}{a^2} \Rightarrow a^2 b = -1$$

$$a^2 b + ac = 1 \Rightarrow \underbrace{a^2 b}_{-1} + ac = 1 \Rightarrow \boxed{ac = 2}$$

$$b = b(x-a)^m \rightarrow m > 0$$

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

$$\Rightarrow m-1 < 0 \Rightarrow m < 1 \Rightarrow m \in \left(\frac{1}{2}, 1 \right)$$

بازه شامل هیچ عدد صحیح نامنفی ای نیست

$$g(x) = \frac{1}{2x^3}$$

$$f(g(x)) = \frac{1}{\sqrt[3]{2 \times \frac{1}{2x^3}}} = x$$

$$(f \circ g)' = 1$$

$$f(x) = -3a - a \quad f'(x) = -a$$

$$f'(x) = f(x) + 2 \quad \cdot \quad - (f(x) + 2 = -a)$$

$$f(x) + a = -3a$$

$$\frac{f(x)}{f'(x)} = \frac{-\frac{1}{x}}{\frac{x}{x}} = -\frac{1}{x}$$

$$x = -3a \Rightarrow a = -\frac{x}{3}$$

$$f(x) = x \left[x^2 + \frac{1}{x} \right]^*$$

$$f'(x) = 4x$$

$\hookrightarrow x \times 4 \times x$

$$g'(x) = \frac{4x}{x \sqrt{x^2 - 1}} = \sqrt{2}$$

$$(f \circ g)'(x) = g'(x) \cdot f'(g(x)) = 4x \sqrt{2}$$

$$g\left(\frac{x}{\sqrt{2}}\right) = \frac{1}{\frac{1}{x}} = x$$

$$\frac{4x \sqrt{2}}{-128 \sqrt{2}} = \sqrt{-\frac{1}{x}}$$

$$g'(-2) = f'(-1) = 3 f'(x)$$

$$f'(x) = f'(-1) \text{ در صورتی که } x = -1$$

$$g'(-2) = 6$$

$$\text{Hop: } \frac{-2 f'(a-h) f(a-h) + 3 f'(a-h)}{-2h + a} = \frac{-2 f'(a) f(a) + 3 f'(a)}{a}$$

$$\Rightarrow \frac{-2 \left(2 + \frac{1}{12} \right) + 3 \left(\frac{2a}{12} \right)}{a} = \frac{-a}{12}$$

$$y = \frac{x^{m+1}}{x} \quad m = \frac{1}{x}$$

$$\text{مس: } m' = -2 \Rightarrow y' = x^{m-2} = -2 \Rightarrow m=1 \quad y=x$$

$$(1, 2)$$