

$$a + 1 = b \rightarrow a + 1 \leq 110 \rightarrow \boxed{a \leq 10}$$

$$\frac{r_n}{r\sqrt{n^r}} = \frac{rnb}{r\sqrt{n^r}} \rightarrow 1 = \frac{rb}{r} \rightarrow \boxed{110 \leq b}$$

$$a + b \rightarrow 110 + 10 \leq \textcircled{120} \rightarrow \text{جواب}$$

$$\frac{\sqrt{(x+1)^2} + \sqrt{3x}}{\sqrt[3]{n^r}} \rightarrow g(x) = \frac{|x-1| + \sqrt{3x}}{\sqrt[3]{n^r}} \quad \textcircled{1}$$

$$g(x) = \frac{-x + 1 + \sqrt{3x}}{\sqrt[3]{n^r}} \rightarrow \frac{\left(-1 + \frac{1}{r\sqrt{n^r}}\right)(\sqrt[3]{n^r}) - \left(\frac{r}{r\sqrt[3]{n^r}}\right)(-x + \sqrt{3x})}{\sqrt[3]{n^r}}$$

$$\rightarrow g'(1) = \left(-1 + \frac{1}{r\sqrt{n^r}}\right)(1) - \left(\frac{r}{r}\right)(1 + \sqrt{r})$$

$$= \frac{-1 + \sqrt{r}}{r} - \frac{r}{r} - \frac{r\sqrt{r}}{r} \rightarrow \frac{\sqrt{r}}{r} - \frac{r\sqrt{r}}{r} - \frac{r}{r}$$

$$= \frac{-\sqrt{r}}{r} - \frac{r}{r} \rightarrow \frac{-\sqrt{r}-1}{r} = g'(1)$$

$$f(x) = \frac{-2x + r}{\sqrt[3]{n^r}} \rightarrow f'(x) = \frac{\left(-2\sqrt[3]{n^r}\right) - \left(\frac{r}{r\sqrt[3]{n^r}}\right)(-2x + r)}{\sqrt[3]{n^r}}$$

$$f'(1) = \frac{-2 - \left(\frac{r}{r}\right)(r)}{1} \rightarrow -2 - \frac{r}{r} \rightarrow \frac{-2-r}{r} = \frac{-10}{r} = f'(1)$$

$$\frac{-r}{r} + \frac{r\sqrt{r}}{r} + \frac{r}{r} \rightarrow \frac{r\sqrt{r}}{r} = \boxed{\frac{\sqrt{r}}{r}} \rightarrow \text{جواب}$$

$$ba + c = \frac{1}{a} \longrightarrow ba + c = -ba \quad \text{--- (1)}$$

$$ba = -\frac{1}{a} \longrightarrow -ba = \frac{1}{a} \quad \text{--- (2)}$$

$$\longrightarrow ba^2 = -1$$

$$ac \longrightarrow a(-2ba) \longrightarrow -2ba^2 \quad \text{--- (2)}$$

$$y \in b \longrightarrow y' = 0 \quad y \in b + (n-a)^m \longrightarrow y' = m(n-a)^{m-1}$$

$$ms \mid \longrightarrow y' = 1(n-a) \quad \text{--- (1)}$$

الزائر
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$$g'(-\sqrt[3]{r}) f'(g(-\sqrt[3]{r}))$$

~~f'(x)~~

$$\longrightarrow f(g(x)) \quad \text{--- (3)}$$

$$f \circ g = \frac{1}{\sqrt[3]{\frac{1}{n^3}}} \longrightarrow (f \circ g)' = n$$

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

$$f'(x) = -a \quad f(x) = -14a - 8 \quad \text{--- (4)}$$

$$-a = 14(-14a - 8) = 14$$

$$14a + 8 = 14 \longrightarrow 14a = -6 \longrightarrow a = -\frac{3}{7}$$

$$f(x) = \frac{9}{x} - \frac{10}{x} = -\frac{1}{x} \longrightarrow f'(x) = \frac{1}{x^2}$$

$$\frac{f(x)}{f'(x)} = \left[-\frac{1}{x} \right] \quad \text{--- (5)}$$

$$(f \circ g(x))' = f'(g(x)) \times g'(x) \quad \textcircled{v}$$

$$g\left(\frac{w}{\sqrt{x}}\right) = \frac{1}{\sqrt{\frac{x}{x}-1}} = 1 \Rightarrow (f \circ g)' \left(\frac{w}{\sqrt{x}}\right) = g' \left(\frac{w}{\sqrt{x}}\right) f'(1)$$

$$g(x) = (x^2 - 1)^{-\frac{1}{2}} \Rightarrow g'(x) = -\frac{1}{2}(x^2 - 1)^{-\frac{3}{2}} \times 2x = \frac{-x}{x^2 \sqrt{x^2 - 1}}$$

$$g' \left(\frac{w}{\sqrt{x}}\right) = \frac{\frac{-\frac{w}{\sqrt{x}}}{x^2 \sqrt{\left(\frac{w}{\sqrt{x}}\right)^2 - 1}}}{\sqrt{x}} = \frac{-1}{\sqrt{x}} = \underline{-\frac{1}{\sqrt{x}}}$$

$$f(x) = (x^2)^2 + 1 = f'(x) = 4x \Rightarrow f'(1) = 4$$

$$(f \circ g)' \left(\frac{w}{\sqrt{x}}\right) = -\frac{1}{\sqrt{x}} \times 4 = -\frac{4}{\sqrt{x}}$$

$$\frac{-\frac{4}{\sqrt{x}}}{-\frac{4}{\sqrt{x}}} = \boxed{1} \quad -1 \text{ mark}$$

$$g(x) = f(x+1) + f(x+1) \rightarrow g'(x) = f'(x+1) + f'(x+1) \quad \textcircled{\wedge}$$

$$g'(-2) = f'(-2+1) + f'(-2+1) \rightarrow f'(-1) + f'(-1)$$

$$-1 + 0 = -1 \rightarrow f'(-1) = f'(-1)$$

$$g'(-2) = \frac{w}{x} \times 2 = \textcircled{2} \quad -1 \text{ mark}$$

$$\lim_{h \rightarrow 0} \frac{f'(0-h) - 1 + f(0-h) + 1}{h(0-h)} \rightarrow \lim_{h \rightarrow 0} \frac{(f(0-h) - 1)(f(0-h) + 1)}{h(0-h)} = 1$$

$$\lim_{h \rightarrow 0} \frac{f(0-h) - 1}{0-h} \times \lim_{h \rightarrow 0} \frac{f(0-h) + 1}{h} = \frac{f(0-h) - 1}{h} \times \lim_{h \rightarrow 0} \frac{f(0-h) + 1}{h}$$

$$\frac{1-1}{0} \times \lim_{h \rightarrow 0} \frac{f(0+(-h)) - f(0)}{h} = -\frac{1}{0} \lim_{h \rightarrow 0} \frac{f(0+(-h)) - f(0)}{-h}$$

$$-\frac{1}{0} \lim_{h \rightarrow 0} \frac{f(0+h) - f(0)}{h} = -\frac{1}{0} f'(0)$$

$$f(x) = (x-1) \sqrt[3]{x+1} \Rightarrow f'(x) = 1 \times \sqrt[3]{x+1} + \frac{x-1}{\sqrt[3]{(x+1)^2}}$$

$$f'(0) = \sqrt[3]{1} + \frac{1}{\sqrt[3]{4}} = 1 + \frac{1}{\sqrt[3]{4}} = \frac{10}{12}$$

$$-\frac{1}{0} f'(0) = -\left[\frac{10}{12}\right] = -\frac{5}{6}$$

$$y = x^2 - 4x + 8 \rightarrow y' = 2x - 4$$

(10)

$$4y - 4x = 1 \rightarrow y = \frac{1}{4}x + \frac{1}{4} \rightarrow m = \frac{1}{4}$$

مشتق
نقطة
مماس

$$m' = -2 \rightarrow 2x - 4 = -2 \rightarrow 2x = 2 \rightarrow x = 1$$

$$y = 1 - 4 + 8 = 5$$

$$\left[\begin{array}{c|c} \text{معادله} & 1 \\ \hline \text{نقطة} & 5 \\ \hline \text{مماس} & 2 \end{array} \right] \rightarrow \text{حوا}$$