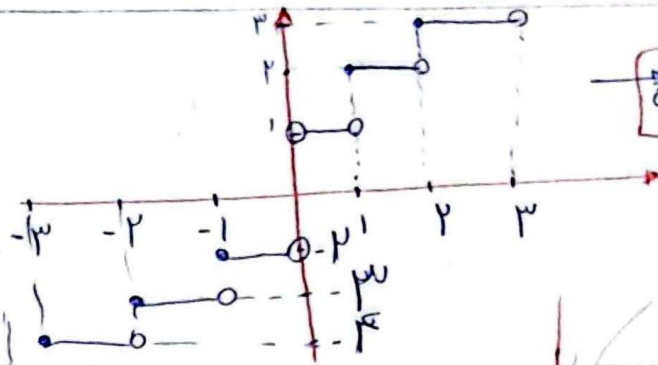


الف) $f(x) = 2 \sin^2(x + \frac{\pi}{3}) - 1$ $\rightarrow$ $R_f = [-1, 1]$

ب) $g(x) = 3 \cos^3 x - 4$ $\rightarrow$ $R_g = [-7, -1]$

ج) $\frac{x}{|x|} + [x]$



حد ۳-۲ صده

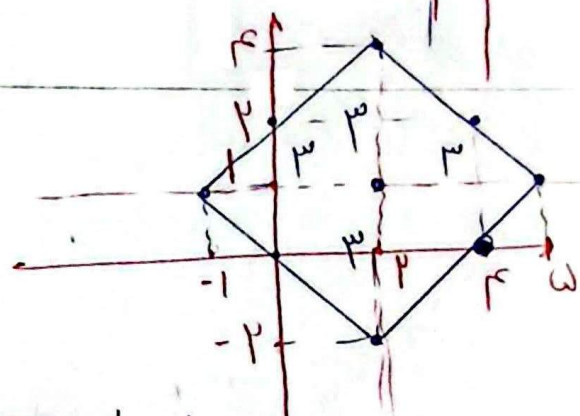
د) $\frac{x^2 + 1}{x + 3}$

۳-۱ جانب نام

۴ = ۲ افقی

بدرن قدرین

قدرین



۳ $|x - 2| + |y - 1| = 3$

$|x - 2| = 3 - |y - 1|$

$|x - 2| \leq 3$

$|x - 2| = 3 - |y - 1|$

$|x - 2| = 3 - |y - 1|$

الف) $f(x) = x + \frac{1}{x} + 2\sqrt{x + \frac{1}{x}}$ $\rightarrow$ $R_f = [2 + 2\sqrt{2}, +\infty)$

ب) $(3 - \sin x)(1 + \sin x) \rightarrow -\sin^2 x + 2 \sin x + 3$ $\rightarrow$ $[0, 4]$

$$f(x) = -\frac{1}{x}x + 10 \rightarrow D_f = \{1, 2, 3, 4, 5, 6, 7, 8, 9\}$$

$$1 \rightarrow \frac{1}{1} + 1 \rightarrow \frac{1}{2} + 2 \rightarrow \frac{1}{3} + 3 \rightarrow \frac{1}{4} + 4 \rightarrow \frac{1}{5} + 5 \rightarrow \frac{1}{6} + 6 \rightarrow \frac{1}{7} + 7 \rightarrow \frac{1}{8} + 8 \rightarrow \frac{1}{9} + 9$$

$$9 \rightarrow \frac{1}{9} + 9 \rightarrow \frac{1}{8} + 8 \rightarrow \frac{1}{7} + 7 \rightarrow \frac{1}{6} + 6 \rightarrow \frac{1}{5} + 5 \rightarrow \frac{1}{4} + 4 \rightarrow \frac{1}{3} + 3 \rightarrow \frac{1}{2} + 2 \rightarrow \frac{1}{1} + 1$$

$$\boxed{10}$$

$$f(x) = \sqrt{ax^2 + bx + c} \rightarrow D_f = [1, +\infty) \rightarrow \text{عبارت زیر رادیکال مثبت}$$

$$a > 0, \quad 2b + C = 0, \quad 3b + C = 1 \rightarrow b = -1, C = 2$$

$$g(x) = \sqrt{x^2 + 1} \rightarrow [1, +\infty), R_g$$

$$R: [1, +\infty)$$

$$f(x) = \frac{x(x^2 + 1)}{x + 1}, \quad x^2 - 2x \rightarrow x \neq -1$$

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

$$\rightarrow R_f = [-1, +\infty) - \{-1\} \rightarrow C = -1, a = b = -1$$

$$f\left(-\frac{1}{2}\right) = f(1) = 0$$

$$g(x) = \sqrt{x^3 + ax^2 + bx - 1} \rightarrow (x - 1)^3 = x^3 - 3x^2 + 3x - 1$$

$$b = 12, a = -9$$

$$f(x) = x - 1 \rightarrow D_f = [-4, 12] \rightarrow R_f = [-1, 10]$$

د دوسرې ساحې د پوښتنې

$$g = [x] + \left[x + \frac{1}{x}\right]$$

$$x \in \left[\frac{1}{x}, 1\right]$$

