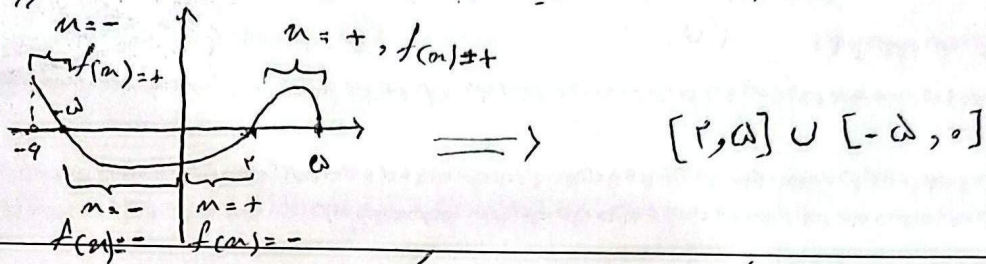
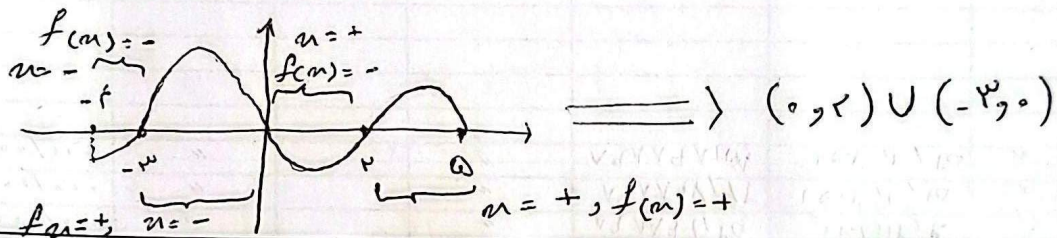


اگر m و $f(m)$ هم علامت باشند یا یکی صفر باشد دامنه می شود



مخرج کسر نباید صفر باشد و برابر اعداد هم منتهی نباید باشد - چون در سر منتهی داریم باید m و $f(m)$ هم علامت نباشند



$$f(m) \neq f(r) = m^2 - 3m + 4 \rightarrow m = 2 \rightarrow f(2) - 2f(2) = 4 - 4 + 4$$

$$-f(2) = 4$$

$$f(-r) = ? \quad \boxed{f(-2) = 10} \rightarrow \text{جواب} \quad \boxed{f(2) = -4}$$

$$f(-2) - 2f(2) = 4 + 4 + 4 \Rightarrow f(-2) + 4 = 14 \Rightarrow f(-2) = 10$$

$$f(f(5)) + f(f(1)) = 13 - 2\sqrt{4} + 5 - \sqrt{4}$$

$$f(5) = 5 - \sqrt{4}$$

$$\sqrt{4} = 2, 4$$

$$5 - 2, 4 = 2, 4 \rightarrow 2, 4$$

$$f(1) = 2 + 3 = 5$$

$$f(5) = 5 - \sqrt{4}$$

$$am^2 - bm + 2 = f(m) \Rightarrow f(m) = 2$$

$$m \rightarrow 1 \Rightarrow f(1) = a - b + 2$$

$$\boxed{a - b = -1}$$

$$f(1) - f(1) = 4 + 2$$

$$f(0) - f(0) = 1$$

$$f(1) = -4$$

$$\frac{f(x) + f(-1)}{f'(x) - f'(-1)} = \frac{V}{1} = \textcircled{V} \rightarrow \text{جواب}$$

$$P(n) = n^2 - 3n + 1$$

$$P(x) \rightarrow x^2 - 3x + 1 = 9 - 9 + 1 = \textcircled{1}$$

$$f(-1) = (-1)^2 + 3 + 1 = 1 + 3 + 1 = \textcircled{4} \quad f(x) = x^2 - 4 + 1 = \textcircled{-1}$$

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

$$f(x) = \begin{cases} x^2 + 1 & \text{if } x \geq 0 \\ x^2 & \text{if } x < 0 \end{cases}$$

$$f(x) = 3x^2 + 1 = 12$$

$$f(-x) = (-x)^2 = x^2$$

$$f(x) = 4 + 1 = \textcircled{5}$$

$$\frac{f(f(x)) - f(f(x))}{f'(1) - 2} = \frac{4 - 4}{4 - 2} = \frac{0}{2} = 0$$

$$f = \{(1, 4), (2, 2), (3, 1), (4, 0)\}$$

$$\begin{aligned} f(1) &= 4 & f(2) &= 2 & f(3) &= 1 \\ f(4) &= 0 & f(1) &= 4 & f(2) &= 2 \end{aligned}$$

$$\frac{(\sqrt{x}-1)^2 + f(\sqrt{x}-1) + 9}{(\sqrt{x}-1)^2 + f(\sqrt{x}-1) + 4} = \frac{x + x - 2\sqrt{x} + 1 + 9}{x + x - 2\sqrt{x} + 1 + 4} = \frac{1}{x} = \textcircled{1}$$

$$f(x) = \frac{x+1+9}{x+1+4} = \frac{21}{14}$$

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

$$f(\sqrt{n}) = (\sqrt{n} + \frac{1}{\sqrt{n}})^2 - 2 \Rightarrow$$

$$\rightarrow \left(\left(\sqrt{n} + \frac{1}{\sqrt{n}} \right)^2 - 2 \right)^2$$

$$= f(n)$$