

تکلیف

سایه ها را بنویس

$$F(-1) = \sqrt{1-1} = 0$$

$$F(0) = \sqrt{1-0} = 1$$

$$F(1) = \sqrt{1-1} = 0$$

$$F(1) = \sqrt{1-1} = 0$$

$$F(x) = \{(-1, 0), (0, 1), (1, 0)\}$$

$$y_g - y_F, y(1) - y(0) = 1$$

$$y_g - y_F, y(1) - y(1) = 0$$

$$y_g - y_F, y(1) - y(0) = 1$$

$$\{(-1, 2), (0, 0), (1, 1)\}$$

$$D_F = \{1, 0, 1\}$$

$$\Rightarrow y_F \Delta y = 1$$

$$F(1) = y(1) - 1 = 0$$

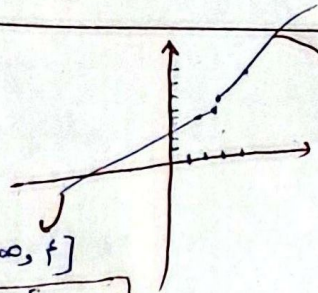
$$F(1) = y(1) - 1 = 0$$

$$y(1) = \frac{1}{2}(1) + 1 = \frac{3}{2}$$

$$y(1) = \frac{1}{2}(1) + 1 = \frac{3}{2}$$

$$D_F = (-\infty, 1]$$

$$D_{F(f)} \cup D_{F(g)} = (-\infty, 1] \cup [0, +\infty)$$



$$y = \frac{x^2}{2} + x + 1 > \frac{x^2}{2} \Rightarrow -x^2 + (x+1)x > 0 \Rightarrow -x^2 + x + 1 > 0$$

$$\Delta = 1 + 1 = 2$$

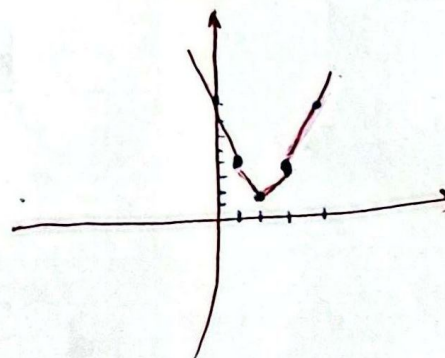
$$\frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-1 \pm \sqrt{2}}{-1} = 1, \frac{-1 \pm \sqrt{2}}{-1} = -1$$

$$\sqrt{b-a} = \sqrt{1-(-1)} = \sqrt{2}$$

$$\frac{-1}{-1} + \frac{1}{-1} = -1 \Rightarrow (-1, 1)$$

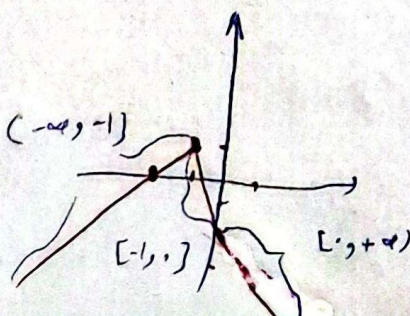
| 1                       | 2                   | 3                       |
|-------------------------|---------------------|-------------------------|
| $1 - x + 1 - x + 1 - x$ | $x - 1 - x + 1 - x$ | $x - 1 + x - 1 + x - 1$ |
| $1 - 1 - 1$             | $1 - 1 - 1$         | $1 - 1 - 1$             |

$$\min y = \sqrt{2}$$



$$y = |x| - 1 |x+1|$$

$$\frac{-1}{x+1} \mid -1x-1 \mid -x-1$$



$$D_F = (-\infty, 1]$$

$$y(x+1) = (x+1)(x+1) + (m-1) = yx + y = x^2 + 2x + 1 + m - 1$$

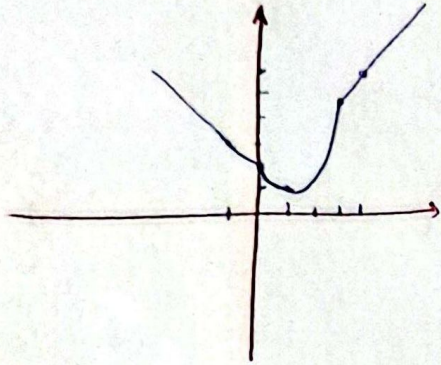
$$= x^2 + 2x + m \quad \Rightarrow \quad (\omega - y)^2 - 1(n - y) = 2\omega - 1 \cdot y + y^2 - 1m + 1y$$

$$= y^2 - 2y + 2\omega - 1m$$

$$\Delta y < 0 \Rightarrow 2y - 1(2\omega - 1m) < 0 \rightarrow 2y - 1 \dots + 2\omega m < 0$$

$$\Rightarrow 1 > m < y^2 \rightarrow m < 1$$

بازرسی



$$x^2 - 2x + 1 \leq x < 2$$

$$x_{min} = \frac{-b}{2a} = \frac{+1}{1} = 1$$

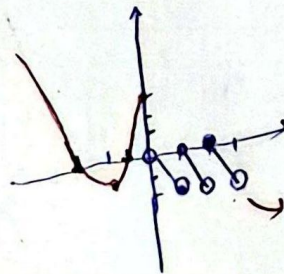
$$y_{min} = (1)^2 - 2(1) + 1 = 0$$

$$D_f = [1, +\infty)$$

$$x^2 - 2x + 1 \rightarrow \frac{b}{2a} = \frac{-1}{1} = -1 \leq x_{min} \rightarrow y_{min} = (-1)^2 + 1(-1) + 1 = 1$$

$$1 \leq f(x) \leq 1 \leq 2$$

$$\frac{-1+1}{1} = 0 \quad \frac{-1+2}{1} = 1$$



$$D_f = [-1, +\infty)$$

$$\sqrt{x+1} \rightarrow x+1 \geq 0 \Rightarrow x \geq -1 \rightarrow x \geq -\frac{1}{f}$$

$$b = -\frac{1}{f}$$

$$a = f^2 - \frac{1}{f} = \boxed{-5}$$

$$\omega = 4+1 - \sqrt{2(-\frac{1}{f}+1)} = 5 \leq \omega \leq 1$$

$$g(x) = 2\sqrt{x+1} - x^2 - f(x)$$

$$y = \frac{f(x)}{x} = \frac{g(x)}{x} = \frac{f(x)}{x} - \frac{1}{x} (2\sqrt{x+1} - x^2 - f(x))$$

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

$$\Rightarrow \omega \in [-1, 1]$$

$$\sqrt{x+1} + 2\sqrt{1-x} = \sqrt{\sqrt{1+x} + \sqrt{1-x}}^2 = \sqrt{1+x} + \sqrt{1-x} + 2\sqrt{1-x} = \sqrt{1+x} + 3\sqrt{1-x}$$

$$D_f \in [0, \sqrt{2}]$$