

1

سبب علی

$$y \cap f \cap c \Rightarrow -1, 1, 0$$

الحاصل

$$y \cap f = \{(1, 2), (0, 1), (1, 1)\}$$

$$f(x) = x - 1$$

$$[r, +\infty)$$

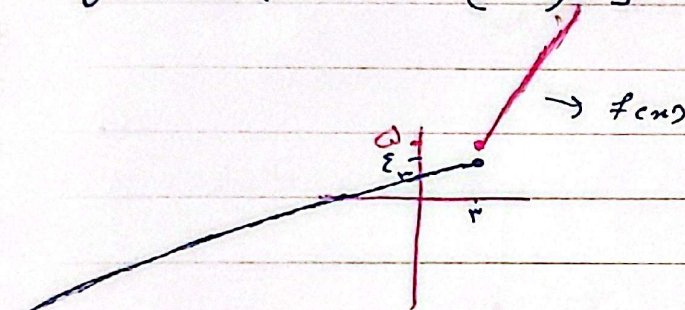
$$\min_{f \cap c} = r \times r - 1 = 0$$

$$g(x) = \frac{1}{r}x + r$$

$$(-\infty, r]$$

$$\max_{g \cap c} = 1 + r = \varepsilon$$

$$\min_{g \cap c} = -\infty$$



$$R_f = [r, +\infty)$$

$$R_g = (-\infty, r]$$

$$R_f \cap R_g = (-\infty, \varepsilon] \cup [\omega, +\infty)$$

$$y = -\frac{x^r}{r} + x + r \Rightarrow -\frac{x^r}{r} + x + r > \frac{r}{r}$$

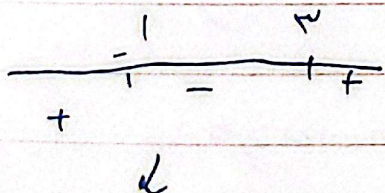
$$-x^r + rx + r > r$$

$$-x^r + rx > 0$$

$$x^r - rx < 0$$

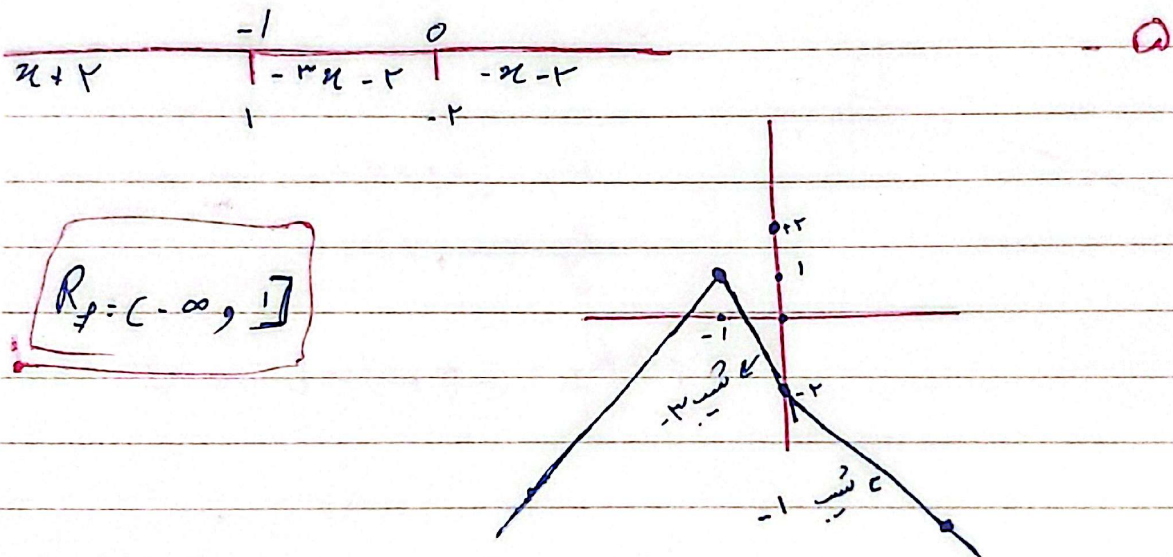
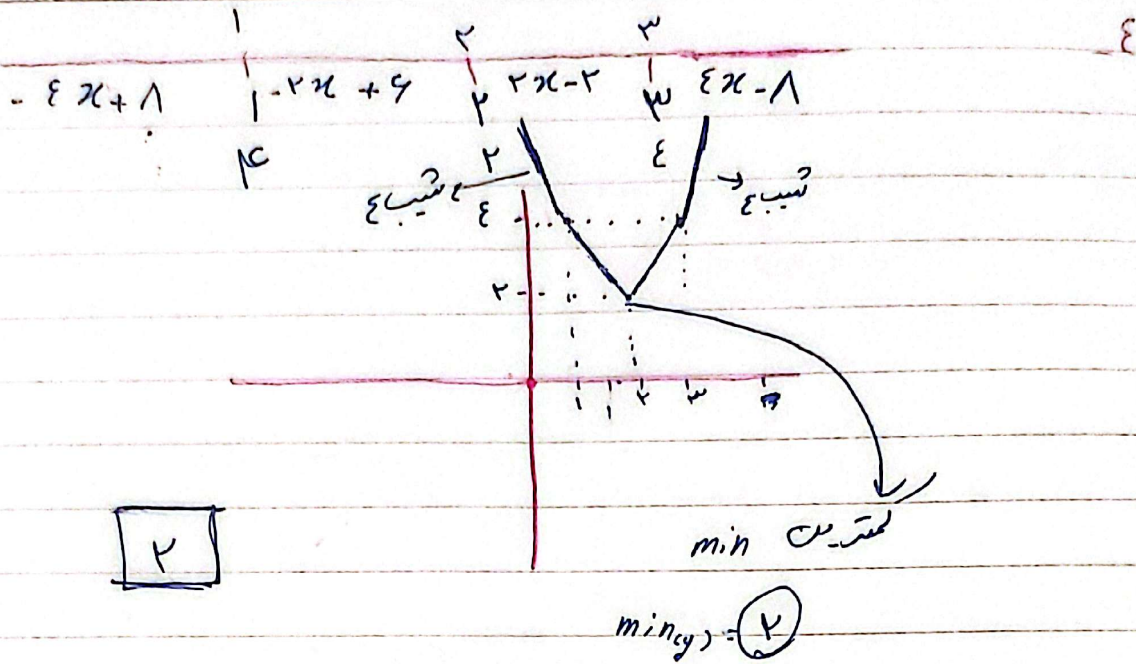
$$(x - r)(x + 1) < 0$$

$$x_1 = r \quad x_2 = -1$$



$$D_f = (-1, r) \Rightarrow \sqrt{r - (-1)} = \sqrt{\varepsilon} = \varepsilon$$





$$y = \frac{x^r + \omega x + m}{x+1} \Rightarrow yx + y = x^r + \omega x + m \Rightarrow$$

$$x^r + (\omega - y)x + (m - y) = 0$$

$$\Delta \geq 0$$

$$\left. \begin{array}{l} m \leq \epsilon \\ m \in \mathbb{N} \end{array} \right\} \Rightarrow m = 1, 2, 3$$

$$2\omega + y^r - 1 \cdot y - \epsilon m + \epsilon y \geq 0$$

$$y^r - \epsilon y - \epsilon m + 2\omega \geq 0$$

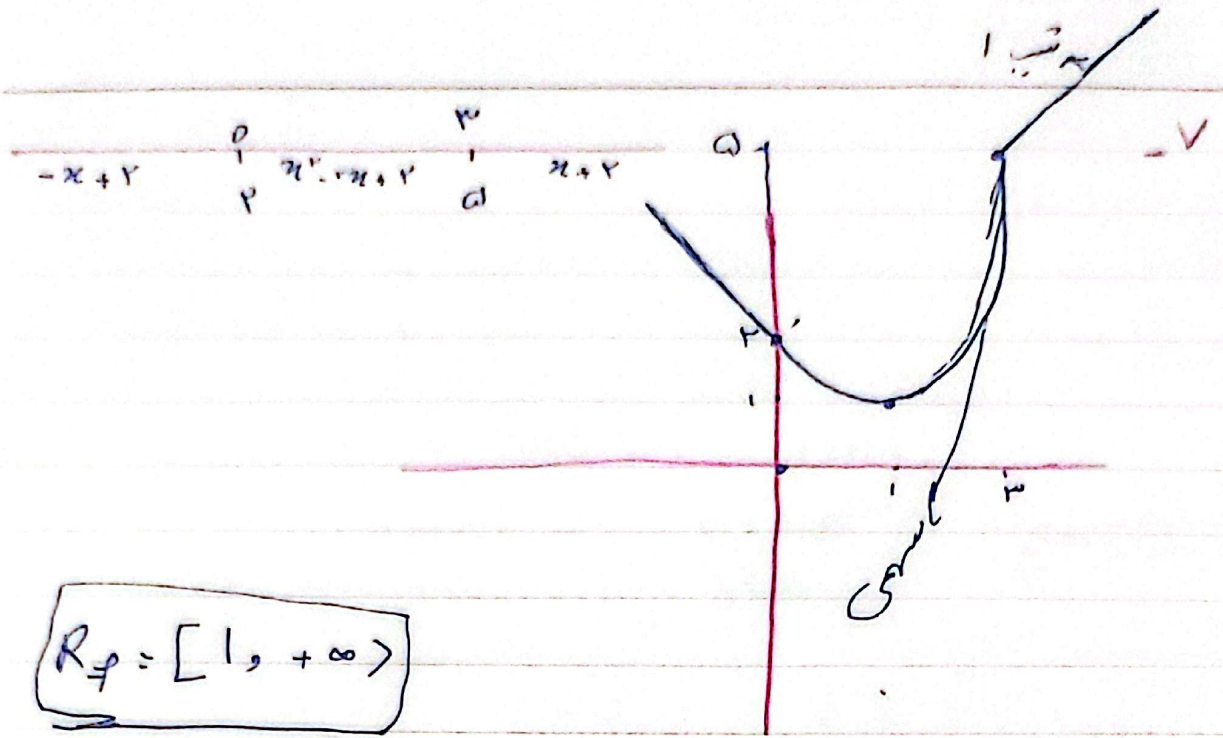
~~Graph~~

$$\frac{-b}{2a} = \frac{y}{2} = 1$$

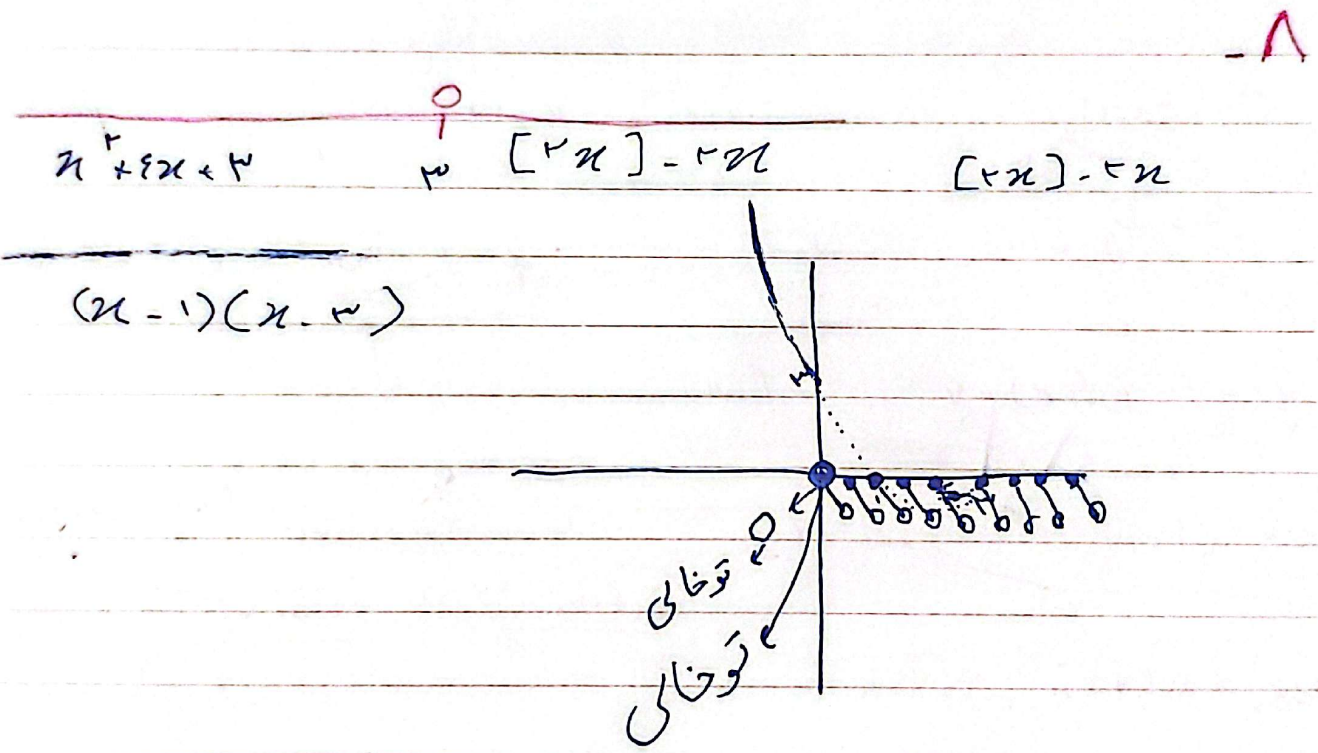
$$9 - 11 - \epsilon m + 2\omega \geq 0$$

dotnote

$$m \in \mathbb{N}, m \leq 14$$



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



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

$$[b, +\infty)$$

$$\sqrt{2x+3} \geq 0$$

$$\sqrt{2x+3} = 3$$

$$2x+3 = 9 \Rightarrow b = -\frac{3}{2}$$

$$a+1-0 = a+1 \quad \leftarrow \sqrt{2x+3} = 0 \quad \text{بیشترین برد}$$

$$(-\infty, a]$$

$$a+1 = a$$

$$a = \varepsilon$$

$$a, b = \varepsilon x - \frac{3}{2} = -\frac{9}{2}$$

$$-\frac{9}{2}$$

10

$$D_f = [-1, 1]$$

$$1-x \geq 0$$

$$x+1 \geq 0$$

$$1 \geq x$$

$$x \geq -1$$

$$D = [-1, 1]$$

$$\Rightarrow D_g = [-1, 1]$$

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

$$R_g = [0, \sqrt{2}]$$

$$g(x) = (f(x) + g(x)) - f(x)$$

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

$$\frac{f(x)}{4} = \frac{g(x)}{3}$$

$$\Rightarrow \frac{f(x) - 2g(x)}{4} = \frac{\sqrt{2x+1} + \sqrt{1-x} - \sqrt{2x+1} - \sqrt{1-x}}{4}$$

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

$$f(x) + g(x) = 3\sqrt{1+1-x+x+\sqrt{1-x}} = 3\sqrt{(\sqrt{2x+1}) + \sqrt{1-x}} =$$

$$3(\sqrt{2x+1} + \sqrt{1-x})$$

$$g(x) = (f(x) + g(x)) - f(x) = 3\sqrt{2x+1} + 3\sqrt{1-x} - 2\sqrt{2x+1} - 2\sqrt{1-x} =$$

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