

$$\begin{aligned} YF(a) &= F(-1) + a \\ Y(a+1)(v) &= Ya - Y + a \\ 1(a+1) &= Ya - Y \\ 10a &= -11 \\ \boxed{a} &= -11/10 \end{aligned}$$

$$\begin{aligned} (Y - \sqrt{Y})(Y + \sqrt{Y}) &= Y - Y = 1 \rightarrow \sqrt{Y - \sqrt{Y}} \times \sqrt{Y + \sqrt{Y}} = 1 \rightarrow \sqrt{Y - \sqrt{Y}} = \frac{1}{\sqrt{Y + \sqrt{Y}}} \\ F(Y - \sqrt{Y}) + F(Y + \sqrt{Y}) &= \sqrt{Y - \sqrt{Y}} + \sqrt{Y + \sqrt{Y}} + Y + \sqrt{Y + \sqrt{Y}} + \sqrt{Y - \sqrt{Y}} = Y(\sqrt{Y + \sqrt{Y}} + \sqrt{Y - \sqrt{Y}}) + 2 \\ A' &= (Y - \sqrt{Y}) + (Y + \sqrt{Y}) + Y\sqrt{(Y - \sqrt{Y})(Y + \sqrt{Y})} = 2Y + 2 \\ Y - \sqrt{Y} + Y + \sqrt{Y} &= 4 \\ \boxed{A} &= \sqrt{4} \end{aligned}$$

$$\begin{aligned} YF(x) - YF(-x) &= Yx^2 - x \\ YF(x) - YF(x) &= -Yx^2 + x \\ \Rightarrow \begin{cases} YF(x) - YF(-x) = 11x^2 - 2x \\ 4F(x) - 9F(x) = -11x^2 + 2x \\ -5F(x) = -11x^2 + 2x \\ F(x) = \frac{11}{5}x^2 - \frac{2}{5}x \end{cases} \end{aligned}$$

$$\begin{aligned} x=0 &\rightarrow YF(0) = Ym - 1 \rightarrow F(0) = \frac{11}{5}m - \frac{1}{5} \\ x=-1 &\rightarrow 4F(0) = 14 + Ym + Ym - 1 \rightarrow 4F(0) = 13 + 2Ym \rightarrow F(0) = \frac{13}{4} + \frac{Y}{2}m \\ \frac{11}{5}m - \frac{1}{5} &= \frac{13}{4} + \frac{Y}{2}m \rightarrow \frac{11}{5}m - \frac{Y}{2}m = \frac{13}{4} + \frac{1}{5} \\ \frac{11}{5}m - \frac{11}{10}m &= \frac{13}{4} + \frac{1}{5} \\ \frac{1}{10}m &= \frac{13}{4} + \frac{1}{5} \\ m &= \frac{13}{4} + \frac{1}{5} \times 10 = \frac{13}{4} + 2 = \frac{19}{4} \\ \boxed{m} &= \frac{19}{4} \end{aligned}$$

$$F(-1) + F(-1) = \frac{Y(-1)^2 + 1Y + Y}{-1} \rightarrow YF(-1) = -11 \rightarrow \boxed{F(-1) = -9}$$

$$F(x) = (x-1)\sqrt{1-x} \quad \mathbb{I} x-1 \neq 0 \rightarrow x \neq 1 \quad \mathbb{I} \mathbb{I} : \sqrt{1-x} \rightarrow 1-x \geq 0 \rightarrow \boxed{1 \geq x} \quad -9$$

$$D_F : \mathbb{I} \cap \mathbb{I} \mathbb{I} = (1, +\infty)$$

$$g(x) = -\sqrt{1-x} \rightarrow D_g : 1-x \geq 0 \rightarrow \boxed{1 \geq x} \rightarrow [1, +\infty)$$

برابر نیست

$$F(x) = x\sqrt{x} \quad \mathbb{I} : x \in \mathbb{R} \quad \mathbb{I} \mathbb{I} : \sqrt{x} \rightarrow x \geq 0$$

$$D_F : \mathbb{I} \cap \mathbb{I} \mathbb{I} = [0, +\infty)$$

-10

$$g(x) = \sqrt{x^3} \rightarrow x^3 \geq 0 \rightarrow \boxed{x \geq 0} \quad D_g : [0, +\infty)$$

برابر هستند

$$F(x) : [\sqrt{x} - \sqrt{x}] \quad \boxed{x \geq 0} \quad x \in \mathbb{Z} \rightarrow$$

$$[\sqrt{x}] = \mathbb{Z}$$

-1

$$g(x) : \sqrt{x-|x|} \quad D_g : x-|x| \geq 0 \rightarrow x \geq |x| \rightarrow \boxed{x \geq 0}$$

$$الف) \left(\frac{F+g}{F-g} \right) (1) = \frac{\{(1,3), (2,4), (3,4), (0,2)\}}{\{(1,1), (2,0), (3,-4), (0,-2)\}} = \{(1,3), (3,-\frac{4}{-1}), (0,-1)\}$$

-9

$$ب) \left(\frac{F+g}{F-g} \right) (2) = \frac{\{(1,3), (2,4), (3,4), (0,2)\}}{\{(1,1), (2,0), (3,-4), (0,-2)\}} = \{(1,4), (2,-4), (0,-2)\}$$

$$2) F(0)g(-1) = 0 \times 1 = 0$$

$$الف) g(x) = F(x_{x-1}) \rightarrow x_{x-1} = r$$

$$x_{x-1} = r \quad x = r \quad \boxed{x=1} (1,1)$$

$$g(x) = \{(1,1), (0,2), (\frac{1}{r}, \omega), (-\frac{1}{r}, r), (\frac{r}{r}, -1)\}$$

$$x_{x-1} = -1$$

$$x_{x-1} = 0 \quad \boxed{x=0} (0, \varepsilon)$$

$$x_{x-1} = 0$$

$$x_{x-1} = 1 \quad \boxed{x=\frac{1}{r}} (\frac{1}{r}, \omega)$$

$$x_{x-1} = -r$$

$$x_{x-1} = 1 \quad \boxed{x=-\frac{1}{r}} (-\frac{1}{r}, r)$$

-10

$$x_{x-1} = r$$

$$x_{x-1} = \varepsilon \quad \boxed{x=\frac{\varepsilon}{r}} (\frac{\varepsilon}{r}, -1)$$

$$ب) h(x) = F(|x|) \rightarrow \text{نقطه } x \text{ های مثبت}$$

$$h(x) : \{(1,1), (-1,1), (0,\omega), (r,-1), (-r,-1)\}$$