

$$y = -\frac{1}{2}x^2 + \frac{3}{2}x + 1 \quad \text{در } \begin{cases} \frac{3}{2}x \rightarrow 4 \\ \frac{3}{2}x \rightarrow 3 \end{cases} \quad x \rightarrow \frac{3}{2}x$$

$$\frac{-b}{2a} = \frac{-\frac{3}{2}}{-\frac{1}{2}} = \frac{3}{1} \quad \left\{ \begin{array}{l} \frac{3}{2}x \left(-\frac{3}{2}x^2 + \frac{3}{2}x + 1 \right) = 0 \rightarrow -\frac{3}{2}x^2 + \left(\frac{3}{2} - \frac{3}{2} \right)x + 1 = 0 \\ \frac{3}{2}x \rightarrow -\frac{3}{2}x^2 + \frac{3}{2}x + 1 = 0 \end{array} \right.$$

$$\frac{-\Delta}{2a} \Rightarrow \frac{-\frac{9}{4} - \frac{9}{4}}{-\frac{1}{2}} = 3 \left(\frac{1}{2} + \frac{1}{2} \right) = \frac{3}{1}$$

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$$\text{در } \begin{cases} 1 \xrightarrow{x-2} -1 \left(\frac{x}{2} \right) - \frac{1}{3} = \alpha \\ 4 \xrightarrow{x-2} -8 \left(\frac{x}{2} \right) - 1 = \beta \end{cases}$$

$$\alpha \beta = -1 \times -\frac{1}{3} = \left[\frac{1}{3} \right] \text{ جواب}$$

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$$g(x) = -\left(3 - \sqrt{2(x+1)} \right) + 5$$

$$\hookrightarrow 2 + \sqrt{2x+2} = \frac{5}{2} \rightarrow \sqrt{2x+2} = \frac{3}{2} \rightarrow 2x+2 = \frac{9}{4} \rightarrow 2x = \frac{1}{4} \rightarrow \boxed{x = \frac{1}{8}} \text{ جواب}$$

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$$\underbrace{f(x-1)} + \underbrace{g(x+1)}$$

$$(a+1, 5) \cap (-2, b-1) = (-2, 5)$$

$$\begin{array}{ll} a+1 = -2 & b-1 = 5 \\ a = -3 & b = 6 \end{array} \Rightarrow a-b = \boxed{-9}$$

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$$R_f = [-1, 2] \quad y_r = \sqrt{|2f(x) - 3|}$$

$$D_f \Rightarrow [-2, 4] \xrightarrow{\div 2} [-1, 2] \quad R_{ff} \Rightarrow [-1, 2] \xrightarrow{(x^2)(-3)} [-\infty, 1] \xrightarrow{\sqrt{\quad}} [1, \infty]$$

$$\left. \begin{array}{l} \text{دامنه} \Rightarrow [-1, 2] \\ \text{بر} \Rightarrow [1, \sqrt{5}] \end{array} \right\} \text{ جواب}$$

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$y = \frac{x}{a} [an] < \frac{1}{a} [an] < \frac{1}{r}$ $a = -1$ $b = 1$ $-\frac{1}{r} x [-an] \rightarrow -\frac{1}{r} x - 1 \rightarrow \frac{1}{r} x - 1 \rightarrow \frac{1}{r} x - 1 / \frac{1}{r}$	9
$g(x) = -\log_r^{-x+r} + r$ $g(-1) + g(-r) \Rightarrow -\log_r^{-14} + r - \log_r^{-4r} + r = -4$	r
$f(x-1)$ $f(x-1)-1$	1
$g(x) = \left \frac{(x-r)+1}{r(x-r)+1} \right + 1 \rightarrow \left \frac{x-1}{rx-r} \right + 1$ $\left \frac{x-1}{rx-r} \right + 1 + x < 0 \rightarrow \left \frac{x-1}{rx-r} \right < -x-1$ $x < 0 \rightarrow \frac{1-x}{rx-r} = \frac{(x+1)}{-x-1} \rightarrow rx^2 - x - r = 0$ $x = \frac{1 \pm \sqrt{1+4r^2}}{2r}$ $x \in (-\infty, -\sqrt{r})$ جواب	9
$f(x) = a(x-r) + rv \rightarrow (0,0) \rightarrow 0 = a(-r) + rv \rightarrow a = \frac{rv}{r}$ $\Rightarrow f(x) = rv f(x) \rightarrow f(x)(f(x)-rv) \leq 0 \rightarrow 0 \leq f(x) \leq rv$ $Dg \in [0, \frac{1}{r}] \rightarrow [0, 1, 2] \rightarrow \frac{rv}{r}(x-r) + rv \leq \frac{1}{r}$ $x \leq \frac{1}{r} \leftarrow x-r \leq \frac{r}{r} \leftarrow (x-r)^r \leq \frac{1}{rv}$	1.