

$$y = -\frac{1}{3}x^2 + \frac{2}{3}x + 1 \quad \frac{-b}{2a} = \left(\frac{-\frac{2}{3}}{-\frac{1}{3}} \right) = \frac{2}{1} \rightarrow 2 \Rightarrow \frac{2}{3} + 0 = \frac{4}{3} \Rightarrow \frac{4}{3} = \frac{14}{3}$$

$$-\frac{1}{3} \left(\frac{4}{3} \right)^2 + \frac{2}{3} \left(\frac{4}{3} \right) + 1 = -\frac{16}{27} + \frac{8}{9} + 1 = 1 + \frac{8}{9} = \frac{17}{9} \rightarrow \frac{17}{9} + \Delta = 2 \Rightarrow \Delta = \frac{1}{9}$$

$$y = -\frac{1}{3}(x-2)^2 + 2 \xrightarrow{y=0} -\frac{1}{3}(x-2)^2 = -2 \rightarrow x=1, 3$$

$$-\frac{1}{3} \left(x - \frac{14}{3} \right)^2 + \frac{2}{3} \left(x - \frac{14}{3} \right) + 1 + \frac{14}{9}$$

$$-\frac{1}{3} \left(x^2 - \frac{28}{3}x + \frac{196}{9} \right) + \frac{2}{3}x - \frac{28}{9} + 1 + \frac{14}{9} \Rightarrow -\frac{1}{3}x^2 - \frac{28}{9}x + \frac{196}{27} + \frac{2}{3}x - \frac{28}{9} + 1 + \frac{14}{9} = 0$$

الستین $\rightarrow f(1) = 2$

$$3x + 2 = 1 \Rightarrow 3x = -1 \Rightarrow x = -\frac{1}{3}$$

$$1 - 2f(1) \Rightarrow 1 - 2(2) = -3 \Rightarrow A \left(-\frac{1}{3}, -3 \right) \Rightarrow \alpha = -\frac{1}{3}, \beta = -3$$

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

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

$$2 + \sqrt{2x+2} = 3, 5 \Rightarrow \sqrt{2x+2} = 1, 3 \Rightarrow 2x+2 = 1, 9 \Rightarrow 2x = -1, 7 \Rightarrow x = -\frac{1}{2}, \frac{7}{2}$$

$$x = \frac{1}{2} = 0, 1, 2, 3$$

$$f(x-1) + g(x+1) = D_f = [a, b] \Rightarrow (a+1, b)$$

$$D_g = [-1, b] \Rightarrow [-2, b-1]$$

$$a+1 = -2 \Rightarrow a = -3$$

$$b-1 = 5 \Rightarrow b = 6$$

$$a-b = -3-6 = -9$$

$$D_f(x+1) \Rightarrow [-3, 5] \quad D_f(x) \Rightarrow \left[-\frac{3}{2}, \frac{5}{2} \right] \Rightarrow D_f(x) = D_{f(x)-1}$$

$$R_f(x+1) = [-1, 2] \Rightarrow R_f(x) = [-2, 1] \quad (D_{f(x)-1} = [-3, 5])$$

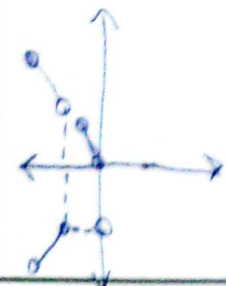
$$R_{f(x)-1} = [(-1)x - 3, (1)x - 1] = [-5, 0]$$

$$D_f = \left[-\frac{1}{2}, \frac{5}{2} \right]$$

$$\sqrt{1 + f(x) - 3} \Rightarrow \sqrt{[0, 5]} \Rightarrow R = [0, 2, 1]$$

$$\sqrt{5}$$

فرید غازی



$$f\left(1 - \frac{1}{a}\right) = \frac{1}{r}$$

$$-\frac{1}{ar} \left[-1 \right] = \frac{1}{r} \rightarrow a^r = r \rightarrow$$

$$\begin{cases} a = r \\ a = -r \end{cases}$$

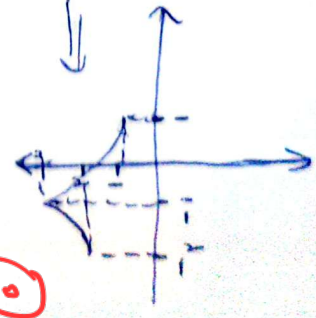
$$b = 1$$

$$b - a = r$$

$$f(x) = \log_r x \Rightarrow \log_r^{a+r} \Rightarrow -\log_r^{a+r} \Rightarrow -\log_r^{a+r} + r = -\log_r^{a+r} - 9(x)$$

$$g(-r) + g(-9r) \Rightarrow (-\log_r^{a+r} + r) + (-\log_r^{a+r} + r) \Rightarrow$$

$$(-\log_r^{a+r} + r) + (-\log_r^{a+r} + r) = (-\log_r^{a+r} + r) + (-\log_r^{a+r} + r) \Rightarrow -1 + (-r)$$



$$f(x) = \log_r^{a+r} + r$$

$$g(x) = \log_r^{a+r} + r$$

$$\left| \frac{a+1}{1+r} \right| \Rightarrow \left| \frac{a+1}{1+r} \right| = \left| \frac{a}{1+r} \right|$$

$$a < \frac{1}{1+r} \Rightarrow \frac{a}{1+r} < \frac{1}{1+r}$$

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

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

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

$$g(x) = r \Rightarrow f(x+1)$$

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