

« دروازہ رسم دختر A. عجب »

17/5

« مبینہ اہانت الہیہ »

1- $y = -\frac{1}{3}x^2 + \frac{2}{3}x + 1$ → رُسن بعد از انتقال

در معنی اصلی $a = -\frac{1}{3}$ است و بعد از انتقال رُسن $(3, 4)$ است پس؛

$y = -\frac{1}{3}(x-4)^2 + 3 \rightarrow -\frac{1}{3}(x-4)^2 + 3 = 0$

$\pm \frac{1}{3}(x-4)^2 = -3 \rightarrow (x-4)^2 = 9 \rightarrow |x-4| = 3$

$x-4 = 3 \rightarrow x = 7$ ✓
 $x-4 = -3 \rightarrow x = 1$ ✓

حل موجود در محور x ها :

2- $f(x) \rightarrow (1, 4)$

$A(\alpha, \beta) \rightarrow y = 1 - 2f(3\alpha + 2)$

$f(x) \rightarrow f(x+2) \rightarrow f(3\alpha+2) \rightarrow \alpha = -\frac{1}{3}$

2 واحد چپ

طول کا $\frac{1}{3}$ برابر

$\Rightarrow \alpha\beta = \frac{4}{3}$ ✓

$(1, 4) \quad (-1, 4) \quad (-\frac{1}{3}, 4)$

$f(x) \rightarrow 2f(x) \rightarrow -2f(x) \rightarrow 1-2f(x) \Rightarrow \beta = -7$

2 واحد چپ

نسبت به محور طول قریب

از واحد بالا

$(1, 4) \quad (1, 8) \quad (1, -8) \quad (1, -7)$

$y = 3 - \sqrt{2x}$ → واحد در جهت منفی x کا $\sqrt{2(x+1)}$ کا

$y = 3 - \sqrt{2x+2}$ → نسبت به محور x کا $y = \sqrt{2x+2} - 3$ کا واحد در جهت مثبت x کا

$y = \int \sqrt{2x+2} - 3 + 5 \Rightarrow y = \int \sqrt{2x+2} + 2$

$\sqrt{2x+2} + 2 = \frac{5}{2} \rightarrow \sqrt{2x+2} = \frac{3}{2} \rightarrow 2x+2 = \frac{9}{4} \rightarrow 2x = \frac{1}{4} \rightarrow x = \frac{1}{8}$ ✓

$D_f = (a, 4) \quad D_g = [-1, b)$

$a-b = ?$

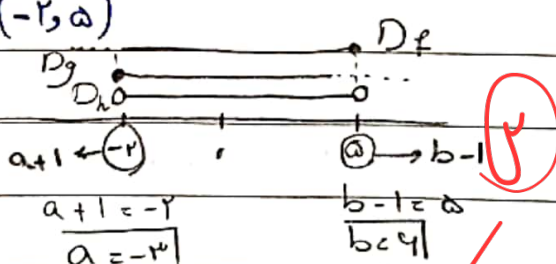
$h(x) y = f(x-1) + g(x+1) \rightarrow D = (-2, 5)$

$a < x-1 \leq 4$

$-1 \leq x+1 < b$

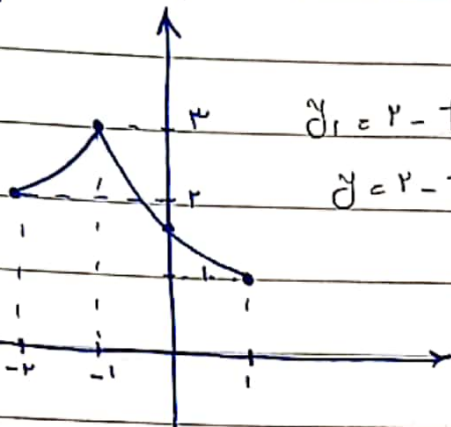
$a+1 < x \leq 5$

$-2 \leq x < b-1$



$\Rightarrow a-b = -3-6 = -9$ ✓

$$y_1 = 2 - f(3-a) \rightarrow y_2 = f(a-1) - 1$$



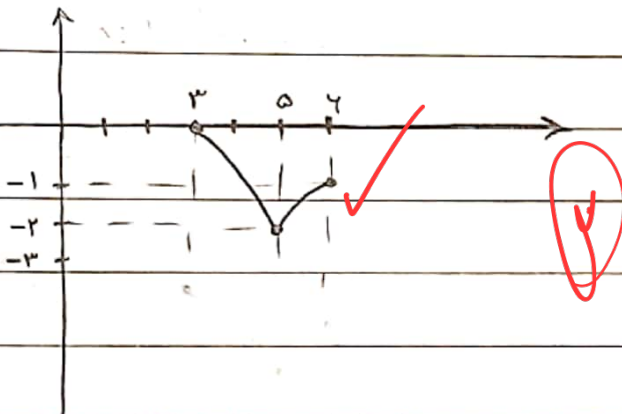
$$y_1 = 2 - f(3-a) \xrightarrow{\text{تغییر متغیر}} y = 2 - f(a+2) \xrightarrow{\text{تغییر متغیر}} y = f(a-1) - 2 \xrightarrow{\text{تغییر متغیر}} y = f(a-1) - 1$$

$$y = f(a-1) - 1$$

$$(-2, 2) \rightarrow (2, 2) \rightarrow (4, 2) \rightarrow (4, -1) \rightarrow (4, -1)$$

$$(-1, 3) \rightarrow (1, 3) \rightarrow (3, 3) \rightarrow (3, -1) \rightarrow (3, -1)$$

$$(1, 1) \rightarrow (-1, 1) \rightarrow (3, 1) \rightarrow (3, -1) \rightarrow (3, 0)$$



$$f(a) = \left| \frac{a+1}{2a+1} \right| \xrightarrow{\text{تغییر متغیر}} y = \left| \frac{a-2+1}{2(a-2)+1} \right| \rightarrow y = \left| \frac{a-1}{2a-3} \right|$$

$$\xrightarrow{\text{تغییر متغیر}} y = \left| \frac{a-1}{2a-3} \right| + 1 \Rightarrow g(a) = \left| \frac{a-1}{2a-3} \right| + 1$$

$$a + g(a) < 0 \rightarrow a + \left| \frac{a-1}{2a-3} \right| + 1 < 0 \xrightarrow{\text{تغییر متغیر}} a+1 < 0 \rightarrow a < -1 \xrightarrow{\text{تغییر متغیر}} a+1 < \frac{a-1}{2a-3}$$

$$\rightarrow (a+1)(2a-3) + (a-1) < 0 \rightarrow (a+1)(2a-3) = 2a^2 - a + 2$$

$$2a^2 - a - 2 + a - 1 = 2a^2 - 3 < 0 \rightarrow 2a^2 - 3 < 0 \rightarrow a^2 < \frac{3}{2} \rightarrow a < \sqrt{\frac{3}{2}} \rightarrow a < \sqrt{1.5}$$

$$\textcircled{1} a < -1 \xrightarrow{a} a < -\sqrt{1.5} \rightarrow (-\infty, -\sqrt{1.5})$$

$$\textcircled{2} |a| > \sqrt{1.5}$$

$$x_I = r \rightarrow y = a(x - x_I)^k + y_I$$

$$y_I = rV$$

$$y = a(x - r)^k + rV \quad (x=0)$$

$$y = a(-r)^k + rV \rightarrow a = \frac{rV}{\lambda}$$

$$\Rightarrow y = \frac{rV}{\lambda} (x - r)^k + rV$$

$$g(x) = \sqrt{2\lambda f(x) - f^2(x)} \rightarrow 2\lambda f(x) - f^2(x) \geq 0 \quad \text{LS} \rightarrow 2\lambda$$

$$0 \leq f(x) \leq 2\lambda$$

$$0 \leq \frac{rV}{\lambda} (x - r)^k + rV \leq 2\lambda$$

$$\textcircled{1} x \geq 0$$

$$(x - r)^k \leq \frac{\lambda}{rV}$$

$$\textcircled{2} x \leq \frac{\lambda}{rV}$$

$$\textcircled{1} \cap \textcircled{2} = \left[0, \frac{\lambda}{rV}\right]$$

در بازه $\left[0, \frac{\lambda}{rV}\right]$ است $\rightarrow$ $\checkmark$