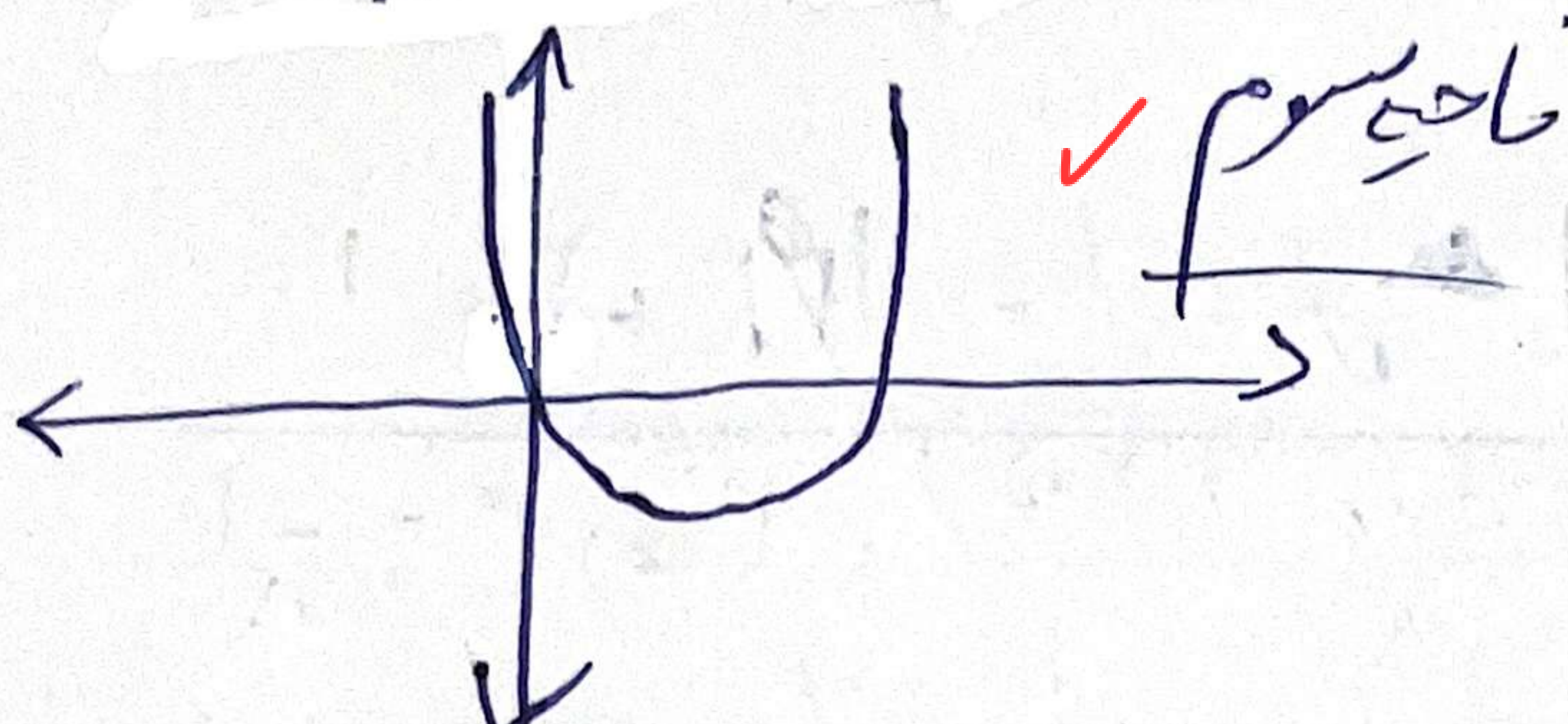
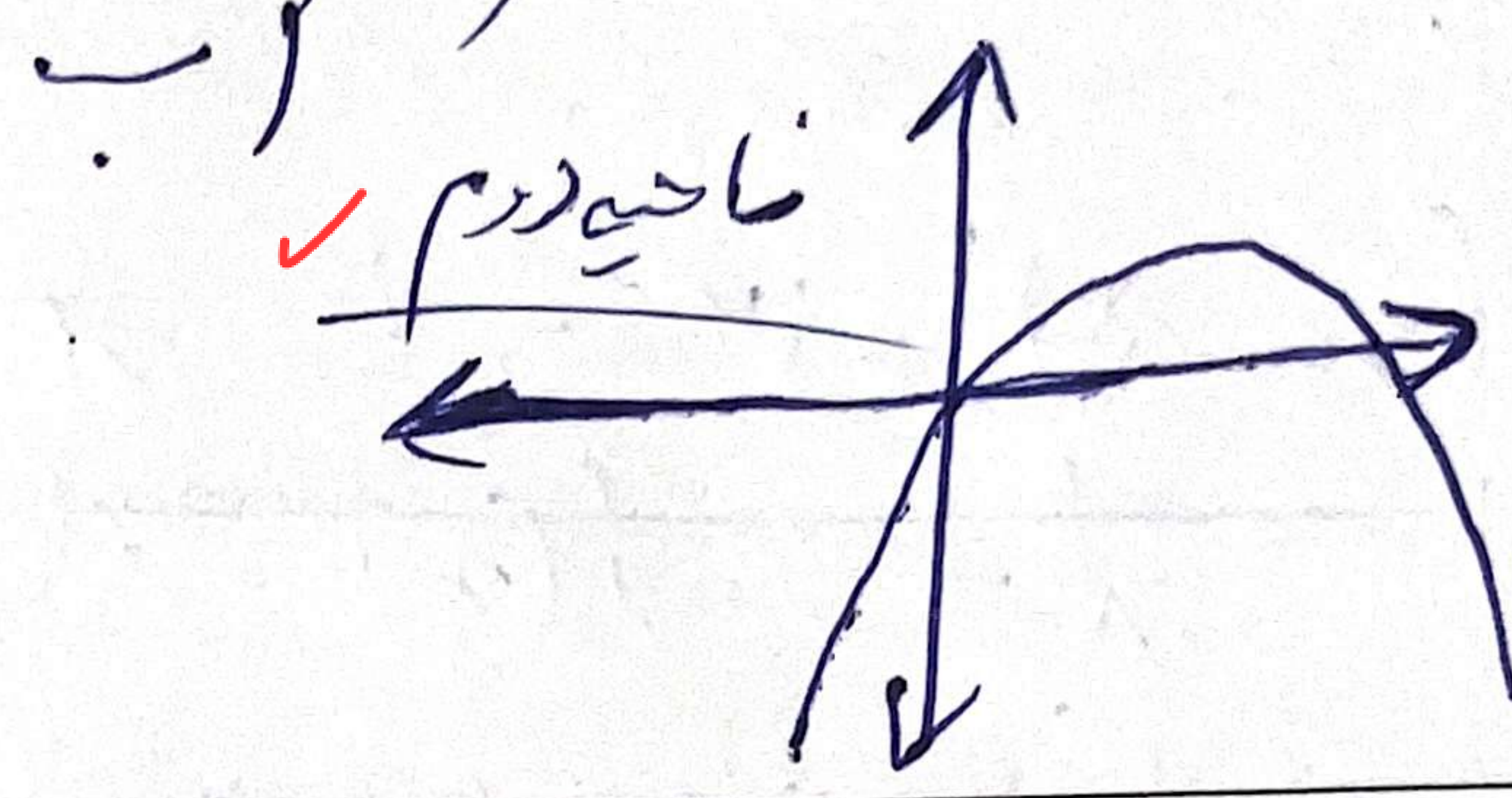
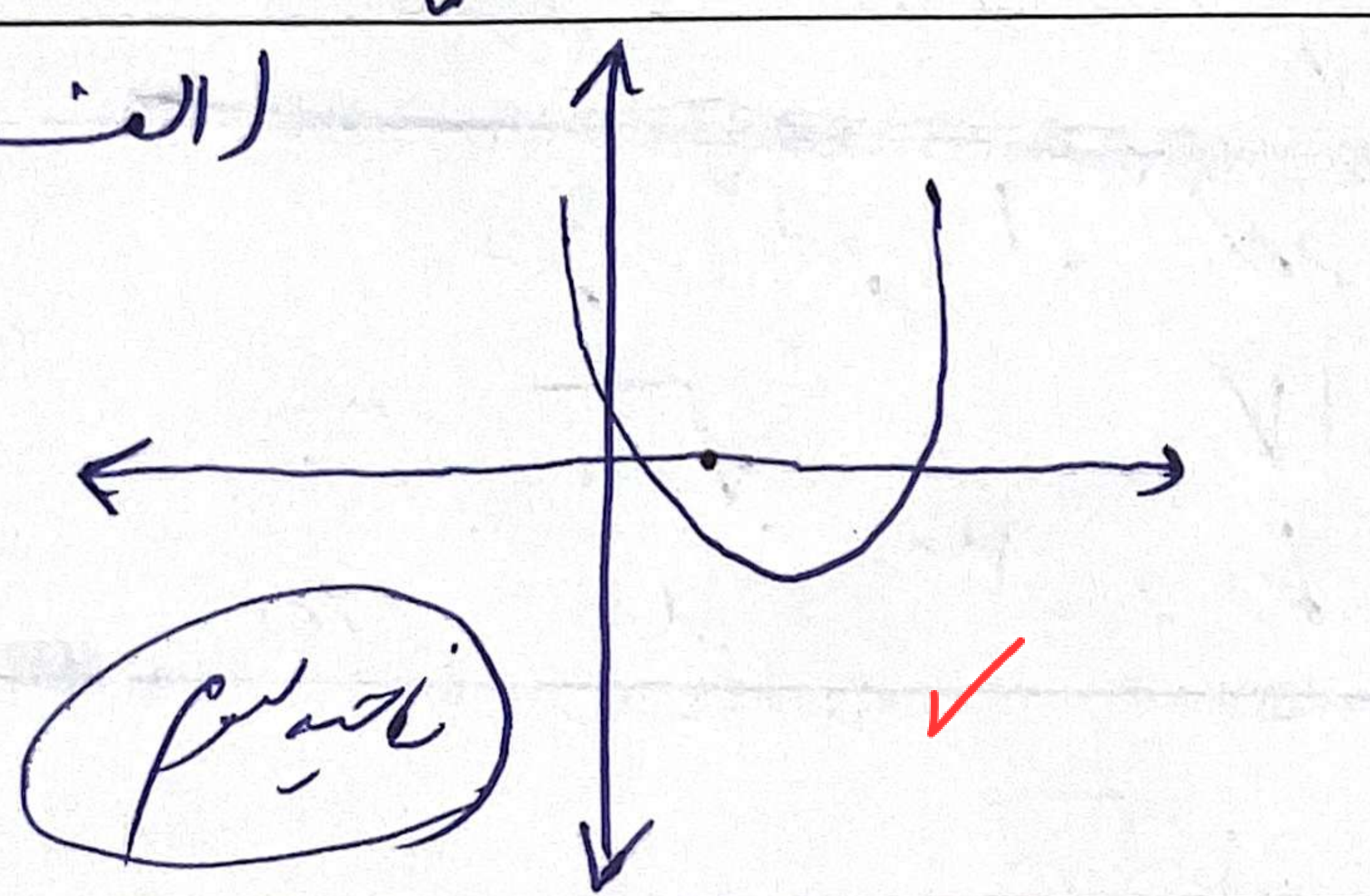
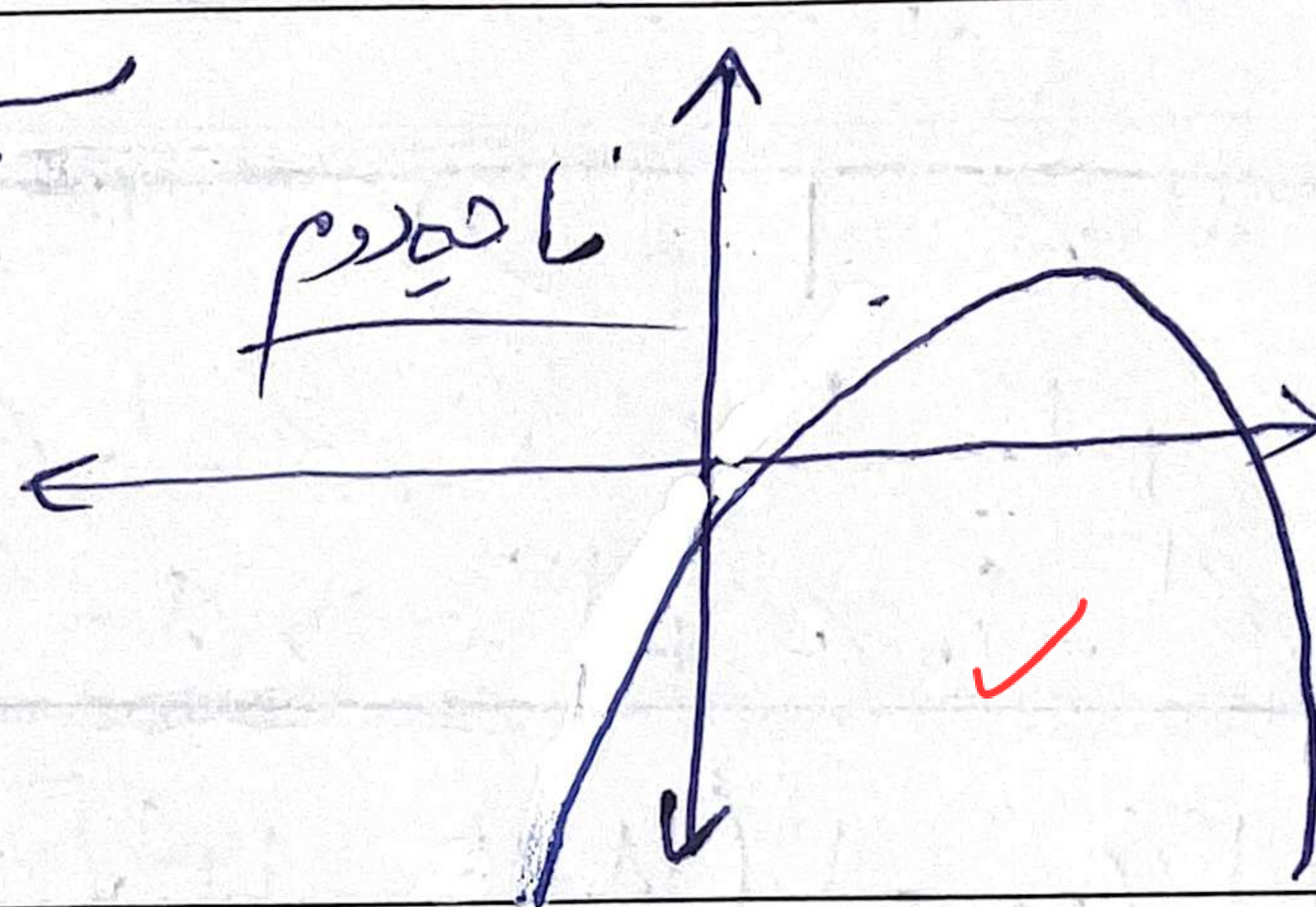


الف)   ب) بهترین راه اینست که رسم کنیم داریم

الف)  

الف)  $\delta = \frac{\sqrt{\Delta}}{a} = \frac{\delta \times a}{\sqrt{\Delta}} = \frac{|x|}{\sqrt{13}} = \frac{\sqrt{13}}{13}$  ✓  
 ب)  $\delta^2 - 2p = 1 - 2(-3) = 7$  ✓  
 ج)  $(\alpha + \beta)(\alpha^2 + \beta^2 - \alpha\beta) = \delta (\delta^2 - 2p - p) = 10$  ✓  
 د)  $(\alpha - \beta)(\alpha^2 + \beta^2 + \alpha\beta) = \sqrt{13} (\delta^2 - 2p + p) = 4\sqrt{13}$  ✓

$x^2 - ax + a \Rightarrow N_0 R_0 \neq \delta \Rightarrow \Delta < 0$   
 $a^2 - 4a < 0$   
 $a(a - 4) < 0 \Rightarrow + \quad | \quad - \quad | \quad + \Rightarrow (0, 4)$   
 ولی! به ازای  $a = 4$ ، ریشه‌های مضامینی هستند که ۲ است پس می‌شود  $(0, 4)$  ✓

$\alpha + \beta = \frac{-(-12)}{3} = 4 \Rightarrow \beta = 4 - \alpha \Rightarrow \beta^2 = 16 + \alpha^2 - 8\alpha$   
 $\Rightarrow 2\alpha^2 + (16 + \alpha^2 - 8\alpha) - 4\alpha = 7$   
 $\Rightarrow 3\alpha^2 - 12\alpha + 9 = 0 \Rightarrow a = 9 \Rightarrow \alpha = -9$  ✓  
 $\Rightarrow R_0 \neq \delta: \frac{12 \pm 9}{3} = \pm 13 \quad a \div 3 = -9 \div 3 = (-3)$  ✓

$$\sqrt{2a + 2a + 2} = a \Rightarrow n(\text{ex}) = a \Rightarrow b = a = \text{ex} \mid a$$

$$\sqrt{2a} > 0 \Rightarrow \sqrt{2a} = \sqrt{2a} \Rightarrow \sqrt{2a} = a \Rightarrow \sqrt{2a} = a$$

$$a - \sqrt{2a} > 0 \Rightarrow a > \sqrt{2a} \Rightarrow \dots \Rightarrow a = 2$$

$$f(x) = k(x-a)^2 + 2 \Rightarrow \text{For } x=9, y=1 \Rightarrow \frac{1}{k} + 2 = 1$$

$$\Rightarrow k = -\frac{1}{1} \Rightarrow f(x) = -\frac{1}{1}(x^2 - 18x + 81) + 2 \Rightarrow C = -\frac{1}{1}$$

در نتیجه عرض از مبدأ برابر با  $\frac{1}{1}$  است که اندازه‌ی آن (مقدور آن) آن برابر با  $\frac{1}{1}$  است

$$\alpha + \beta = 1 \Rightarrow \alpha = 1 - \beta \Rightarrow \alpha^2 = 1 + \beta^2 - 2\beta$$

$$2\beta^2 + 2 + 2\beta - 2\beta - 2\beta = 14 \quad \frac{\sqrt{\Delta}}{a} = \frac{\sqrt{0}}{90}$$

$$90\beta^2 - 90\beta + 2 \Rightarrow a = 90, b = -2 \quad \frac{\sqrt{\Delta}}{a} = \frac{\sqrt{0}}{90}$$

$$= \frac{\sqrt{2^2 \cdot 900 - 4(14 \cdot 90)}}{90} = \frac{2\sqrt{90}}{90} = \frac{2\sqrt{90}}{90}$$

$$n(\text{ex}) = \frac{-a + 1}{2} = \frac{-2}{2} = -1 \Rightarrow \text{ex} \mid -1$$

$$\Rightarrow k(x+2)^2 - \frac{1}{2} = kx^2 + (2kx + 2k) - \frac{1}{2}$$

$$\Rightarrow 2k - \frac{1}{2} = \frac{2}{2} \Rightarrow 2k - \frac{1}{2} = 1 \Rightarrow k = \frac{3}{4}$$

$$\Rightarrow f(x) = \frac{3}{4}(x+2)^2 - \frac{1}{2} \xrightarrow{\text{For } x=1} \frac{3}{4} = \frac{3}{4}$$

$$\alpha + \beta = -9 \Rightarrow \beta = -9 - \alpha \Rightarrow \beta^2 = 81 + \alpha^2 + 18\alpha$$

$$\Rightarrow 2\alpha^2 + (\alpha^2 + 18\alpha + 81) = 18 - 18\sqrt{2} = 0$$

$$\Rightarrow 3\alpha^2 + 18\alpha - 18\sqrt{2} = 0$$

$$\Rightarrow \alpha = -3 - 3\sqrt{2}$$

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

$$a = (-3 - 3\sqrt{2})(-3 + 3\sqrt{2}) = 9 - 18 = -9$$

(۲) (۱۵)

ابتدا معادله‌ای می‌نویسیم که ریشه‌هایش عکس‌العکس باشند

$$\implies x^2 - (m+1)x + 1 = 0$$

$$\sqrt{\alpha} + \sqrt{\beta} = 1 \implies \alpha + \beta + 2\sqrt{\alpha\beta} = 1$$

$$\implies m+1 + 1 = 1 \implies m = -1 \checkmark$$

$$\implies \frac{1}{m} = \frac{1}{-1} = \boxed{-1} \checkmark$$

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$$n_s = \frac{-2+1}{1} = -1$$

-1

$$f(x) = a(x+1)^2 - \frac{1}{1}$$

$$(0, \frac{1}{1}) \in f(x) \rightarrow \frac{1}{1} = a(0+1)^2 - \frac{1}{1} \rightarrow a = \frac{1}{1}$$

$$(1, \beta) \in f(x) \rightarrow \beta = \frac{1}{1}(1+1)^2 - \frac{1}{1} \rightarrow \boxed{\beta = 4}$$