

آنترسیا آفاصلی

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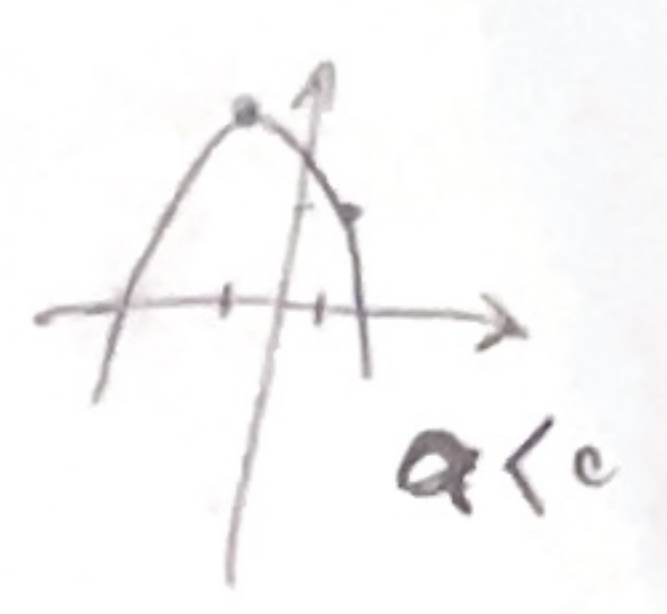
$$y = -\frac{1}{2}(x+1)^2 + 9$$

$$y = a(x-h)^2 + c \Rightarrow S(-1, 9)$$

$$y = -\frac{1}{2}x^2 - x + \frac{17}{2}$$

$$y = a(x+1)^2 + 9$$

$$(3, 1) \Rightarrow a(16) + 9 = 1 \Rightarrow a = -\frac{1}{8}$$



شرط ها

$$\Delta = m^2 - 4(p)(m+q) = m^2 - 4m - 41 > 0$$

جمع

$$-\frac{b}{a} > 0$$

$$-\frac{m}{2} > 0 \Rightarrow m < 0$$

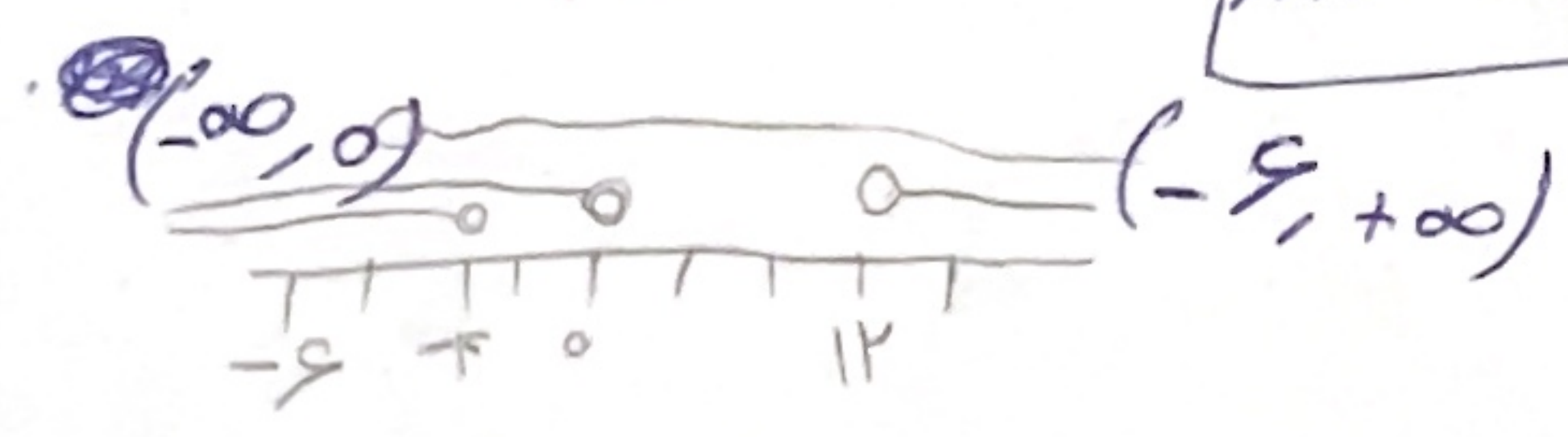
$$\frac{1 \pm 16}{2} \Rightarrow -4 \text{ و } 17$$

$$\sqrt{\Delta} = 16$$

$$\begin{array}{cc} -17 & 17 \\ + & - \\ - & + \end{array}$$

$$m \in (17, +\infty) \cup (-\infty, -17)$$

$$\frac{c}{a} > 0 \Rightarrow m > -4$$



$$-17 > m > -4$$

معکوس ضرب

$$-\frac{b}{a} \neq \frac{a}{c}$$

$$a^2 = -bc \quad b = -\frac{a^2}{c}$$

~~$$2m^2 - 4m - m + 1 = 2m^2 - 5m + 1 = 9 \Rightarrow 2m^2 - 5m - 8 = 0$$~~

$$(2m-1) = \frac{9}{(m-2)}$$

$$2m^2 - 5m - 8 = 9 \Rightarrow 2m^2 - 5m - 17 = 0$$

$$\Delta = 25 - 4(2)(-17) = 119$$

$$\frac{-b \pm 9}{2a} = \frac{5 \pm 9}{4}$$

$$m = \frac{14}{4}$$

$$m = -1$$

عق

$$x^2 - x - 17 = 0 \quad S=1, P=-17$$

$$S^3 - 3SP + \frac{S}{P} = \dots \rightarrow 1 + 17 - \frac{1}{17} = \frac{301}{17} S$$

$$P = x_1^3 x_2^3 + \frac{x_1^3}{x_2} + \frac{x_2^3}{x_1} + \frac{1}{x_1 x_2} \Rightarrow (P)^3 + x_1^3 + x_2^3 + \frac{1}{P}$$

$$x^2 - \frac{301}{17}x - \frac{211}{17}$$

$$S^3 - 3P = -6P + 1 + 1 + \frac{1}{P} = \frac{211}{17}$$

$$\sqrt[3]{x^3} + 1 - \frac{1}{\sqrt[3]{x^3}} + \sqrt[3]{x^3} \Rightarrow \sqrt[3]{x} \left(x - \frac{1}{x} - 1 \right) = 0$$

$$x=0 \quad x=1-\sqrt{2} \quad x=1+\sqrt{2} \quad x_1 + x_2 = 1 + \sqrt{2} + 1 - \sqrt{2} = 2$$

$$y = 3x^2 - ax + 4 \xrightarrow{\text{ریشه ها}} r, 3r$$

(9)

$$\text{جمع} = \frac{-b}{a} = \frac{a}{3} = 4r \Rightarrow r = \frac{a}{12}$$

$$\text{ضرب} = \frac{c}{a} = \frac{4}{3} = 3r^2 = 3\left(\frac{a^2}{144}\right) \Rightarrow a^2 = 16 \Rightarrow a = 4 \quad a = -4$$

اختلاف آنها 8



$$ax^2 + 3x + 2a = 0 \rightarrow \text{عرض از مبدأ}$$

(10)



یکی از ریشه ها = 0



$$x(ax + 3 + 2a) = 0$$

برای
ریشه دوم

$$\begin{cases} x < 0 \\ y < 0 \end{cases}$$

$$\text{ریشه دوم} \rightarrow x = -\frac{3+2a}{a} \geq 0$$

$$0 > a \rightarrow \boxed{a \geq -\frac{3}{2}} \rightarrow 0 > a \geq -\frac{3}{2}$$

$$\text{محور تقارن} = \frac{-b}{2a} \Rightarrow \frac{+a}{-2} = \frac{r}{-2} \Rightarrow \boxed{a = 2} \rightarrow y = x^2 + 2x - 2$$

(11)

$$-1 - 2 + b = 1 \Rightarrow \boxed{b = 4} \rightarrow \boxed{ab = 1}$$

ریشه ها

$$x = 1 \quad x = -3$$

$$3x^2 - ax + b = 0 \rightarrow \text{ریشه} = r + \frac{1}{r} \rightarrow S_1 = \frac{a}{3} \quad S_1 = S_r + 1$$

$$2ax^2 + ax - 6 = 0 \rightarrow \text{ریشه} = r \rightarrow S_r = -\frac{1}{r} \quad \frac{a}{3} = -\frac{1}{r} + 1$$

$$\begin{aligned} P_1 &= \frac{b}{3} \\ P_r &= -3 \end{aligned}$$

$$P_1 = P_r + \frac{1}{r} S_r + \frac{1}{3} \Rightarrow \boxed{P_1 = -3} \Rightarrow b = -6$$

$$\boxed{a = 1}$$

$$\left[\frac{ab}{3} \right] = (-1)$$

$$\text{ریشه مشترک} = r$$

$$\begin{aligned} r^2 + 6r - r &= 0 \\ r(r+5) &= 0 \end{aligned}$$

(10)

$$\begin{cases} r^2 + 6r + m = 0 \\ r^2 + 2r - 3m = 0 \end{cases} \xrightarrow{\text{تفریق}} \begin{cases} 4r + 4m = 0 \\ r + m = 0 \end{cases} \rightarrow m = -r \xrightarrow{\text{جایگزینی}} r = -5$$

$$x^2 + 6x + 5 = 0 \rightarrow (x+1)(x+5) = 0 \xrightarrow{\text{ریشه مشترک}} (-1)$$

$$x^2 + 2x - 15 = 0 \rightarrow (x-3)(x+5) = 0 \xrightarrow{\text{ریشه مشترک}} (3)$$

$$3 - (-1) = 4$$

اختلاف