

آنترسیا آفاصلی

(۲۳)

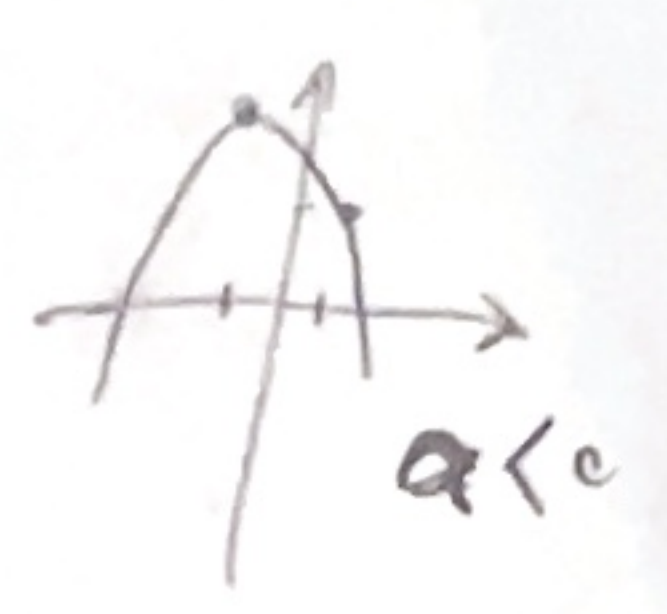
$$y = -\frac{1}{2}(x+1)^2 + 9$$

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

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

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

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



شرط ها

$$\Delta = m^2 - 4(P)(m+9) = m^2 - 4m - 36 > 0$$

جمع

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

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

$$m < 0$$

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

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

$$\begin{array}{c|c} -4 & 17 \\ \hline + & - \end{array}$$

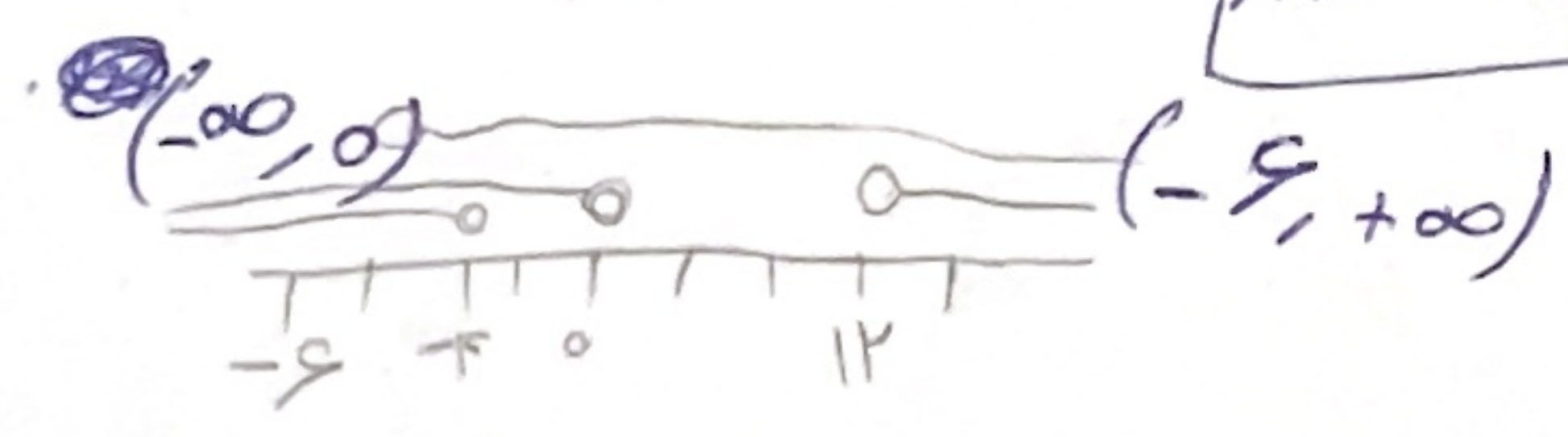
$$m \in (17, +\infty) \cup (-\infty, -4)$$

ضرب

$$\frac{c}{a} > 0$$

$$\frac{m+9}{2} > 0$$

$$m > -9$$



امتیاز
درستی

$$-4 > m > -9$$

معکوس ضرب

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

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

~~$$2m^2 - 4m - m + 9 = 2m^2 - 5m + 9 = 0$$~~

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

$$2m^2 - 5m + 9 = 0 \Rightarrow 2m^2 - 5m - 18 = 0$$

$$\Delta = 25 - 4(2)(-18) = 115$$

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

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

$$m = -1$$

$$x^2 - x - 18 = 0 \quad S=1, P=-18$$

$$S^3 - 3SP + \frac{S}{P} = \dots \rightarrow 1 + 18 - \frac{1}{18} = \frac{31}{18}$$

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

$$x^2 - \frac{31}{18}x - \frac{1}{18}$$

$$S^3 - 3P = -54 + 1 + 1 + \frac{1}{18} = -\frac{211}{18}$$

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

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

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

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

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

اختلاف آنها ۱۶



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

(10)



یکی از ریشه ها = 0



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

برای
ریشه دوم

$$x = -\frac{3+2a}{a} \geq 0$$

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

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

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

ریشه ها

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

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

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

$$P_1 = \frac{b}{3}$$

$$P_r = -3$$

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

$$\boxed{a = 1}$$

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

$$r^2 + 6r - r = 0$$

$$r(r+5) = 0$$

(10)

$$r^2 + 6r + m = 0 \rightarrow \text{تفاوت} \rightarrow 4r + 4m = 0 \rightarrow m = -r$$

$$r^2 + 2r - 3m = 0$$

$$r + m = 0$$

$$m = -r \rightarrow r = -5$$

$$r = -5$$

$$m = 5$$

$$x^2 + 6x + 5 = 0 \rightarrow (x+1)(x+5) = 0$$

$$\text{ریشه مشترک} \rightarrow (-1)$$

$$x^2 + 2x - 15 = 0 \rightarrow (x-3)(x+5) = 0$$

$$\text{ریشه مشترک} \rightarrow (3)$$

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

اختلاف