

$$S(h, k) \rightarrow y = a(x-h)^2 + k \rightarrow \text{AC-69) } -1$$

$$y = a(x - (-1))^2 + 9 \rightarrow y = a(x+1)^2 + 9 \quad (2)$$

$$\text{BC2, 11} \rightarrow 1 = a(3+1)^2 + 9 \Rightarrow 1 = 16a + 9 \Rightarrow a = -\frac{1}{4} \Rightarrow y = -\frac{1}{4}(x+1)^2 + 9 \Rightarrow y = -\frac{1}{4}x^2 - \frac{1}{2}x + \frac{17}{4}$$

$$2x^2 + mx + m + 4 = 0 \quad \text{دو ریشه ی مثبت دارد.} \quad -2$$

$$\frac{P+C}{2} = \frac{m+4}{2} > 0 \Rightarrow m > -4$$

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

$$\Delta = b^2 - 4ac \Rightarrow m^2 - 4(m+4)(2) \geq m^2 - 8m - 32 \geq 0$$

$$(m-12)(m+4) \geq 0 \Rightarrow m \leq -4 \text{ و } m \geq 12$$

$$m \leq -4 \cup m \geq 12$$

$$\Leftrightarrow \frac{-4}{+0} - \frac{12}{+0}$$

$$\text{اشتراک همه ی جواب ها} \Rightarrow (m > -4) \cap (m < 0) \cap (m \geq 12) \cap (m \leq -4) = -4 < m < -2 \Rightarrow m = (-4, -2) \checkmark$$

$$2x^2 + (2m-1)x + 2-m = 0 \quad -3$$

$$p = \frac{c}{a} \text{ و } S = \frac{-b}{a} \Rightarrow \alpha + \beta = \frac{1}{\alpha\beta} \Rightarrow -\frac{(2m-1)}{2} = \frac{2}{2-m}$$

$$(2-m)(2-m) = 4 \Rightarrow 2-4m+2m^2-m = 2m^2-3m+2=4 \Rightarrow 2m^2-3m-2=0$$

$$2m^2-3m-2=0 \Rightarrow \alpha + \beta = \frac{3}{2} \Rightarrow -1 \text{ و } -\frac{2}{3} = \frac{1}{2}$$

$$m = -1 \text{ و } m = \frac{2}{3} \checkmark \quad m = \frac{2}{3} \checkmark$$

مجموعه جواب ها

Subo

(4)

$$x^2 - x - r = 0$$

$$s = 1 \text{ and } p = -r$$

$$\alpha + \beta = (x_1 + x_2)^2 - 2x_1x_2 = (x_1 + x_2) + \frac{x_1 + x_2}{x_1x_2} =$$

$$1 + 1 + \left(\frac{1}{-r}\right) = 2 - \frac{1}{r} = \frac{2r-1}{r}$$

$$\alpha\beta = (x_1x_2)^2 + (x_1 + x_2)^2 - 2x_1x_2 + \frac{1}{x_1x_2} =$$

$$-4r + 1 + 1 - \frac{1}{r} = \frac{-4r^2 + 2r + 1}{r}$$

$$x^2 - \frac{2r-1}{r}x - \frac{-4r^2 + 2r + 1}{r} = 0 \Rightarrow rx^2 - (2r-1)x - (-4r^2 + 2r + 1) = 0$$

$$\left(\sqrt{\frac{r}{x}} + \frac{1}{\sqrt{\frac{r}{x}}} + 1\right)\left(\sqrt{\frac{r}{x}} - 1\right) = r\sqrt{\frac{r}{x}} \quad - \text{a}$$

$$\Rightarrow \sqrt{\frac{r}{x}} + 1 + \sqrt{\frac{r}{x}} - \sqrt{\frac{r}{x}} - \frac{1}{\sqrt{\frac{r}{x}}} = r\sqrt{\frac{r}{x}}$$

$$\sqrt{\frac{r}{x}} - \frac{1}{\sqrt{\frac{r}{x}}} = r\sqrt{\frac{r}{x}} \Rightarrow x^2 - 1 = rx \Rightarrow x^2 - rx - 1 = 0$$

$$x_1 + x_2 = \frac{-b}{a} = \frac{r}{1} = r$$

$$rx^2 - ax + r = 0$$

$$\alpha = \frac{r}{a} \quad \alpha\beta = \frac{c}{a} = \frac{r}{x} \Rightarrow r\beta = \frac{r}{x} \Rightarrow \beta = \frac{r}{a} \quad - \text{y}$$

$$\beta = \frac{r}{a} \Rightarrow \alpha = r \Rightarrow \alpha + \beta = \frac{a}{r} \quad s = \frac{-b}{a} = \frac{-r}{a}$$

$$\beta = -\frac{r}{a} \Rightarrow \alpha = -r \Rightarrow \alpha + \beta = -\frac{a}{r} \quad \alpha + \beta = \frac{-a}{r} \Rightarrow a = r(\alpha + \beta) = -a$$

Subo

$$|a, -a| = 14$$

$$y = ax^2 + (3+2a)x$$

سیمی رو به بالا $a > 0$

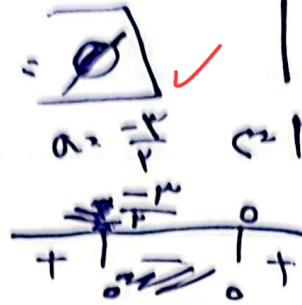
یکه در شیب منفی $p=0$

$$s = -\frac{b}{a} > 0 \quad \checkmark$$

$$-\frac{(3+2a)}{a} > 0$$

$$\frac{3+2a}{a} < 0$$

$$a > 0 \quad \cap \quad -\frac{3}{2} < a < 0 \quad \checkmark$$



$$a = -\frac{3}{2}$$

$$c = 2a = -3$$

$$c = 3 + 2a = 0$$

$a = 0$ غیر قابل

$$\Rightarrow \frac{-b}{a} \Rightarrow \frac{3}{-1} = \frac{-a}{1} \Rightarrow a = 3$$

$$سیمی اول = y = x^2 + 2x - 3 = 1 \Rightarrow x^2 + 2x - 3 = 1 \Rightarrow x^2 + 2x - 4 = 0$$

$$سیمی دوم = y = -(x-1)(x+3) + 1 = -x^2 - 2x + 4 \Rightarrow b = 2$$

$$ab = 2 \times 2 = 4 \quad \checkmark$$

9. ریشه های هر کدام نیز و لده شیب در جعبه آنها اولاد بیزرات

$$\alpha + \beta = \alpha' + \beta' + 1 \Rightarrow \frac{a}{2} = \frac{-a}{2a} + 1 = \frac{1}{2} \Rightarrow a = 1$$

$$2x^2 + x - 4 = 0 \Rightarrow \alpha' \text{ و } \beta' \Rightarrow a = -\frac{2}{2} \text{ و } \beta = 2 \quad \checkmark$$

$$\left[\frac{a}{2} \right] = \left[\frac{-4}{2} \right] = -2 \quad \checkmark$$

Scanned

$$\begin{array}{l}
 x^2 + 4x + m = 0 \quad \left\{ \begin{array}{l} \alpha \\ \beta \end{array} \right. \rightarrow S = \alpha + \beta = -4 \\
 x^2 + 4x - 12m = 0 \quad \left\{ \begin{array}{l} \alpha \\ \beta' \end{array} \right. \rightarrow S = \alpha + \beta' = -4 \\
 \beta' - \beta = +8
 \end{array}$$