

$$\frac{-b}{2a} = 1 \rightarrow \frac{-1}{2(a-1)} = 1 \rightarrow 2a - 2 = -1 \rightarrow 2a = 1 \rightarrow a = \frac{1}{2}$$

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$$\rightarrow y = -\frac{1}{2}x^2 + x + 3 \Delta \rightarrow \frac{-1 \pm \sqrt{1+12}}{-\frac{1}{2}} = (-1 \pm 2) \times 2 \begin{matrix} 6 \rightarrow \text{پاسخ} \\ -2 \end{matrix}$$

$$\rightarrow 1) m < 0$$

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$$\rightarrow 2) \Delta > 0 \rightarrow 2d - 4m^2 > 0 \rightarrow 4m^2 < 2d \rightarrow m^2 < \frac{2d}{4} \rightarrow -\frac{d}{2} < m < \frac{d}{2}$$

$$\rightarrow -\frac{d}{2} < m < 0 \checkmark$$

$$S = \frac{3-\sqrt{5}+3+\sqrt{5}}{2} = 3$$

$$P = \left(\frac{3-\sqrt{5}}{2}\right)\left(\frac{3+\sqrt{5}}{2}\right) = \frac{9-5}{4} = 1 \rightarrow y = x^2 - 2x + \frac{4}{9}$$

$$\rightarrow 9y = 9x^2 - 18x + 4 \checkmark$$

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$$2x^2 - 11x + m + 2 = 0 \quad \alpha, \beta$$

$$* 2\alpha^2 + \alpha^2 + \beta^2 = 2$$

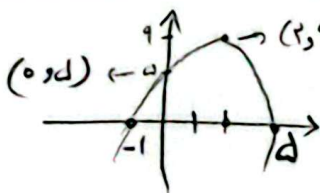
$$\alpha\beta = \frac{m+2}{2} \rightarrow \frac{m}{2}\left(4 - \frac{m}{2}\right) = \frac{m+2}{2} \Rightarrow m - \frac{m^2}{4} = \frac{m+2}{2} \xrightarrow{\times 4} 4m - m^2 = 2m + 8$$

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$$\xrightarrow{\alpha} 2\alpha^2 - 11\alpha + m + 2 = 0 \Rightarrow 2\alpha^2 = 11\alpha - m - 2 \Rightarrow m^2 - 11m + 14 = 0 \Rightarrow m = 2 \checkmark$$

$$\rightarrow 11\alpha - m - 2 + (\alpha + \beta)^2 - 2\alpha\beta = 12 \rightarrow 11\alpha - m - 2 + 4 - 2\left(\frac{m+2}{2}\right) = 12 \xrightarrow{\text{ساده شود}} 4\alpha = m \rightarrow \alpha = \frac{m}{4}$$

$$\rightarrow \alpha + \beta = 4 \rightarrow \frac{m}{4} + \beta = 4 \rightarrow \beta = 4 - \frac{m}{4}$$



$$\rightarrow y = a(x-2)^2 + 9 \quad (0, d) \rightarrow d = 4a + 9 \rightarrow 4a = -9 \rightarrow a = -\frac{9}{4}$$

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$$\rightarrow y = -(x^2 - 4x + 4) + 9 = -x^2 + 4x + 5$$

$$\begin{matrix} \downarrow \\ \text{مختصات} \\ a+c=b \end{matrix} \quad \begin{matrix} -1 \\ d \end{matrix} \xrightarrow{\text{در بازه}} (-1, d) \checkmark$$

$\alpha^3 - 7\alpha + 9\beta = 0$   
 $\alpha\beta^2 - 7\beta + 9\alpha = 0 \rightarrow \alpha\beta^2 + 2\beta = 0 \rightarrow \beta(\alpha\beta + 2) = 0$   
 چون  $\beta \neq 0$  است  $\alpha\beta = -2$   
 $\alpha^3 - 7\alpha + 9(-\frac{2}{\alpha}) = 0 \rightarrow \alpha^4 - 7\alpha^2 - 18 = 0$   
 $\alpha^2 = t \rightarrow t^2 - 7t - 18 = 0$   
 $(t-9)(t+2) = 0$   
 $t = 9 \rightarrow \alpha^2 = 9 \rightarrow \alpha = \pm 3$   
 $\alpha = 3 \rightarrow \beta = -\frac{2}{3}$   
 $\alpha = -3 \rightarrow \beta = \frac{2}{3}$

$x^2 + mx - 2m = 0$  ریشه  $\alpha, \beta$   
 $\alpha^2 - m\beta = 1 \rightarrow \alpha^2 = m\beta + 1$   
 $m(\alpha + \beta) + 1 - 2m = 0 \Rightarrow \alpha + \beta = \frac{2m-1}{m}$   
 $\alpha + \beta = -\frac{b}{a} = -m$   
 $\alpha + \beta = -m$   
 $m^2 - 2m - 1 = 0 \rightarrow (m-4)(m+2) = 0$   
 $m = 4$  یا  $m = -2$   
 $\alpha + \beta = -4$  یا  $\alpha + \beta = 2$

$\frac{-\Delta}{fa} = 1 \rightarrow \frac{14 - (4)(m)(\frac{m}{4} + 1)}{4m} = 1$   
 $14 - 2m^2 - 4m = 4m$   
 $2m^2 - 4m - 14 = 0 \rightarrow m^2 - 2m - 7 = 0$   
 $(m-4)(m+2) = 0$   
 $m = 4$  یا  $m = -2$   
 چون  $m$  می باشد داراست.  $\alpha = -1$  یا  $\alpha = 3$

$y = a(x-2)^2 + 4$   $A(0,4)$   
 $4 = a(0-2)^2 + 4 \rightarrow 4 = 4a + 4 \rightarrow 4a = 0 \rightarrow a = 0$   
 $y = -\frac{1}{4}(x-2)^2 + 4$   
 $-\frac{1}{4}(x-2)^2 + 4 = 0 \rightarrow (x-2)^2 = 16 \rightarrow x-2 = \pm 4$   
 $x = 6$  یا  $x = -2$   
 $\frac{1}{x_1} + \frac{1}{x_2} = \frac{x_1 + x_2}{x_1 x_2} = \frac{4}{-1} = -4$

$f - 2(fa + 4) + (3a^2 + 4a + 3) = 0$   
 $f - 2fa - 8 + 3a^2 + 4a + 3 = 0$   
 $3a^2 - 2fa - 5 = 0$   
 $3a^2 - 1a + 11 = 0$   
 $(3a+1)(a-11) = 0$   
 $a = -\frac{1}{3}$  یا  $a = 11$