سید محمد لولیان

$x = \frac{-b}{2a} = \frac{4}{2+2} = 1$

$y = 2(1)^2 - 4(1) + 1 = -1$

$(1, -1)$

ب)

$x = \frac{-3}{4}$

$y = 2\left(\frac{9}{16}\right) + \frac{9}{4} - 3$

$\frac{4(9 - 4(-5)(-1))}{8} = \frac{-31}{8}$

$\left(\frac{3}{4}, \frac{-31}{8}\right)$

۴

$y = x^2 - 4x + 1$

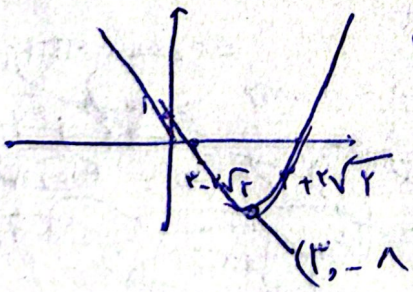
$\frac{4 \pm \sqrt{32}}{2} =$

$\Delta = 32 - 4(1)(1) = 28$

$2 \pm 2\sqrt{2}$

$y_s = \frac{-28}{4} = -8$

$x_s = \frac{4}{2} = 2$



ب)

$y = -x^2 + 4x + 1$

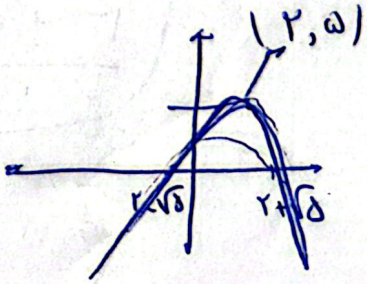
$\frac{-4 \pm \sqrt{20}}{-2} = \frac{-4 \pm 2\sqrt{5}}{-2}$

$\Delta = 16 - 4(1)(-1) \Rightarrow 20$

$2 \pm \sqrt{5}$

$y_s = \frac{120}{24} = 5$

$x = \frac{24}{12} = 2$



$$\sqrt{\alpha} - \sqrt{\beta} = 1$$

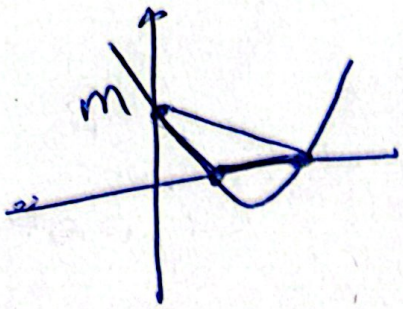
به توان ۲

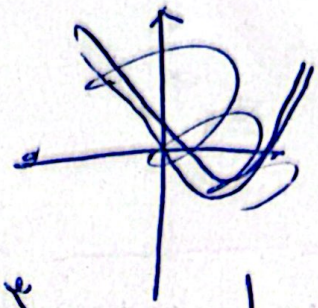
$$\alpha + \beta - 2\sqrt{\alpha\beta} = 1$$

$$2m - 2\sqrt{m} = 1 \Rightarrow m = 1$$

$$2n^2 - n - 1 = 0$$

$$\frac{c}{a} = \frac{-1}{2} = \left\{\frac{-1}{2}\right\}$$





(ب)

$$S=\frac{۴}{۴} \Rightarrow \frac{۱}{۲}\times m\times\frac{\sqrt{\Delta}}{|a|}=\frac{۴}{۴}$$

(۴)

$$\bullet\ \frac{m\times\sqrt{(-m-۲)^۲-۴(m+۲)}}{۲}=\frac{۶}{۴}$$

$$\bullet\ \frac{-(\Delta)}{۴a}\Rightarrow$$

$$\frac{m\times\sqrt{m^۲+۴+۴m-۸m}}{-۴m}=\frac{۶}{۴}$$

$$\frac{-(۹-۴(a)(a۲)}{۴a}=\frac{۷}{۸}$$

$$\frac{m\times\sqrt{(m-۲)^۲}}{۲}=\frac{۶}{۴}$$

$$\frac{-۹+۴a^۲}{۴a}=\frac{۷}{۸}$$

$$\frac{m(-m+۲)}{۴}=\frac{۶}{۴}$$

$$۲۸a=-۷۲+۳۲a^۲$$

$$-m^۲+۲m=۳$$

$$\frac{m\times(m-۲)}{۲}=\frac{۶}{۴}$$

$$۰=۳۲a^۲-۲۸a-۷۲$$

$$۰=m^۲-۲m+۳$$

$$۱۲=۴(m)(m-۲)$$

$$a=\frac{۲۸\pm\sqrt{۷۸۴+۹۲۱۶}}{۶۴}$$

$$۳=m^۲-۲m$$

$$a=\frac{۲۸\pm\sqrt{۱۰۰۰۰}}{۶۴}$$

$$۰=m^۲-۲m-۳$$

$$۰=(m-۳)(m+۱)$$

$$m=۳ \quad m=-۱$$

$$x_۱=\frac{۳}{۲}$$

$$x_۲=\frac{-۱}{۲}$$

$$y=x^۲-۳x+۱$$

$$y=x^۲+x+۱$$

α', β'

α, β

$\alpha - \beta = 4$

$\sqrt{9a^2 + 1 + 9a - 4(b)(1)} = 3$

$\frac{\sqrt{(-a-1)^2 - 4(a)(1)}}{1} = 4$

$\sqrt{a^2 + 1 + 2a - 4a} = 2$

$9a^2 + 9a - 4b + 1 = 4$

$a^2 - 2a + 1 = 1$

$81 + 18 - 4b + 1 = 4$

$a(a-2) = 0$

$a^2 - 2a + 1 = 4$

$-4b = -99$

$a = 0$

$a^2 - 2a - 3 = 0$

$b = 11$

$a = 2$

$(a-3)(a+1) = 0$

$a = 3$

$a = -1$

$\frac{b}{4b} = \frac{1}{4} = x_1$

$\frac{+\alpha}{-2\alpha} = \frac{1}{2} = x_1$

$y_1 = \frac{(a^2 - 4(\frac{2}{3})(1-a))}{2(2a)}$

$y_2 = -\frac{b}{4a} =$

$-a \times \frac{1}{4} + \frac{a}{2} + 2$

$\frac{-(b^2 - 4(-1)(2b))}{8b} = \frac{-b^2 - 8b}{8b}$

$-\frac{a}{4} + \frac{a}{2} + 2 = \frac{2b}{4} = \frac{b}{2}$

$= \frac{-b-8}{8}$

$\frac{b(b-b-8)}{8b}$

$y = \frac{(a^2 + 8a^2)}{4a} = \frac{9a^2}{4a} = \frac{9a}{4}$

$\frac{9a}{4} = \frac{2b}{4} - \frac{2b}{2} - 1$

$\frac{9a}{4} = -1 \rightarrow 9a = -4$

$a = \frac{-4}{9}$

$$\frac{-b-8}{8} = \frac{3}{9} \times \frac{1}{144} - \frac{3}{9} \times \frac{1}{4} + 2$$

$$\frac{-b-8}{8} = \frac{1}{144} - \frac{3}{144} + \frac{72}{144}$$

$$\frac{-b-8}{8} = \frac{99}{144} \quad \frac{72}{144}$$

$$-12b - 96 = 184$$

$$-12b = 280$$

$$b = 23\frac{1}{3}$$

$$23\frac{1}{3} + \frac{2}{9} = 23\frac{7}{9}$$

(9)

$$\alpha(12\alpha^2 + 4) = 0$$

$$12\alpha^3 + 4\alpha = 0$$

$$12\alpha^3 + 4\alpha\beta = 0$$

$$3\alpha\beta + 4\beta^2 + \beta = 0$$

$$3\beta$$

$$\beta(12\alpha^2\beta + 4) = 0$$

$$x = \frac{-4}{20\alpha}$$

$$y = \frac{-(14 - 4(\beta)12\alpha^2)}{100\alpha}$$