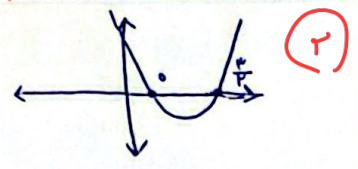
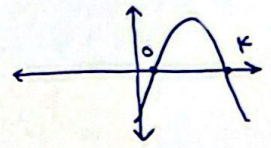


الف)  $3x^2 - 2x = x(3x - 2)$   $x=0$   $x=\frac{2}{3}$   $a > 0$  مینیم دارد



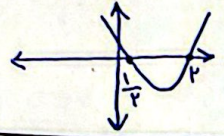
از ناحیه ۳ منفی گذرد ✓

ب)  $-x^2 + 2x = x(-x + 2)$   $x=0$   $x=2$   $a < 0$  ماکزیم دارد

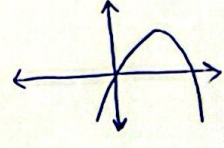


از ناحیه دوم منفی گذرد ✓

الف)  $2x^2 - 5x + 2 = 0$  از نواحی اول، دوم و چهارم ✓  
 $a > 0 \rightarrow \min$   
 $\Delta = 25 - 4(2)(2) = 9$   
 $x = \frac{5 \pm 3}{4} \Rightarrow x = \frac{1}{4}, x = 2$   
 محور مختصات عبوری کند



$-x^2 + 2x - 1 = 0 \Rightarrow \Delta = 4 - 4(-1)(-1) = 0$   
 $x = \frac{-2 \pm \sqrt{0}}{-2} = -1$   
 $-x(2+x) = -x(2+\sqrt{3}) = 2+\sqrt{3} > 0$   
 $-x(2-\sqrt{3}) = 2-\sqrt{3} > 0$   
 از نواحی اول و سوم و چهارم عبوری کند ✓



الف)  $|\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|}$   
 $\frac{\sqrt{13}}{1} = \alpha - \beta = \sqrt{13}$  و  $\alpha + \beta = -\frac{b}{a} = 1$   
 $\frac{\alpha + \beta}{\alpha - \beta} = \frac{1}{\sqrt{13}}$  ✓

ب)  $\alpha^2 + \beta^2 = S^2 - 2P$   
 $1^2 - 2(-3) = 7$  ✓  
 ج)  $\alpha^3 + \beta^3 = S^3 - 3PS$   
 $1 - 3(-3)(1) = 10$  ✓

د)  $\alpha^3 - \beta^3 = (\alpha - \beta)^3 + 3\alpha\beta(\alpha - \beta)$   
 $(\sqrt{13})^3 + 3(-3)(\sqrt{13})$   
 $= 13\sqrt{13} - 9\sqrt{13} = 4\sqrt{13}$  ✓

$(x-2)(x^2 - ax + a)$   
 $D \cap \text{D} \Rightarrow 0 < a \leq 2$  ✓

① دفاصله درین دو ریشه ناشسته باشد  $\Delta = a^2 - 4a < 0$   
 $a(a-4) < 0 \Rightarrow 0 < a < 4$   
 ② ریشه  $x=2$  برای هر دو عبارت باشد  $x^2 - 2a + 2 = 0$   $4 - a = 0 \Rightarrow a = 4$   
 ③ ~~دفاصله درین دو ریشه ناشسته باشد~~

$\alpha + \beta = \frac{14}{3} = 4 \Rightarrow \beta = 4 - \alpha$   
 $2\alpha^2 + (4-\alpha)^2 - 4\alpha = 7$   
 $2\alpha^2 + 16 - 8\alpha + \alpha^2 - 4\alpha = 7$   
 $3\alpha^2 - 12\alpha + 9 = 0$   
 $\alpha^2 - 4\alpha + 3 = 0$   
 $(\alpha - 1)(\alpha - 3) = 0$   
 $\alpha = 1$   $\alpha = 3$

$a = 3\alpha^2 - 12\alpha$   
 $a = 3 - 12 = -9$   $\leftarrow 1 = \alpha$   
 $3\alpha^2 - 12\alpha + 4 = 0$   
 $\frac{a}{3} = \frac{-4}{3} = -\frac{4}{3}$   $\leftarrow 3 = \alpha$   
 $a = 27 - 36 = -9$   $\leftarrow 3 = \alpha$   
 همان حالت قبل پس جواب ۳ است ✓

$$u_0 = \frac{(r_0 + k)(v - r_0)}{r} = \frac{1_0}{r} = a \rightarrow b = a \quad d = \sqrt{\Delta x^2 + \Delta y^2} \quad (1, 5)$$

$$S = (b, b-r) \Rightarrow S(a, r)$$

مورد های طبیعی یعنی  $a - r > 0$   
 $v - r_0 > 0$   
 $r_0 + k > 0$

$$\sqrt{(a+r)^2} = |a+r|$$

$$|a-r|$$

$a - r > 0 \quad a > r \quad v - r_0 > 0 \quad a < k + a \quad r < a < k + a \rightarrow$  تنها مورد طبیعی بین آن ها

$a = k \rightarrow A(1, 1), B(1, 1), C(a, k)$

$$y = n(x-a)^r + k \xrightarrow{\text{جایگذاری}} 1 = n(k)^r + k$$

$$n = -\frac{1}{k} \quad y = -\frac{1}{k}(x-a)^r + k \rightarrow (x-a)^r = rk$$

$$\alpha + \beta = \frac{-(-a)}{a} = 1 \quad \alpha = 1 - \beta \quad r_0 B^r + r(1-\beta)^r - r \cdot \beta = 1v \quad (2)$$

$$4 \cdot \beta^r - 4 \cdot \beta + k = 0$$

$$r \cdot \beta^r - r \cdot \beta + 1 = 0$$

$$B = \frac{-b \pm \sqrt{\Delta}}{2a} \quad B = \frac{a \pm r\sqrt{a}}{r_0}$$

$$|x_1 - x_2| = \frac{\sqrt{\Delta}}{|A|} = \frac{r-r_0}{r_0} = \frac{r-r_0}{r_0} = \frac{r-r_0}{r_0} \quad (2)$$

$$u_{\text{شکل}} = \frac{1 + (-a)}{r} = -r \quad y_{\text{شکل}} = -\frac{1}{r} \quad (-r, -\frac{1}{r}) \quad (2)$$

$$y = a(x+r)^r - \frac{1}{r} \xrightarrow{(0, \frac{1}{r})} y = a(0+r)^r - \frac{1}{r}$$

$$a = \frac{1}{r}$$

$(1, B)$  جایگذاری  $B = \frac{1}{r}(1+r)^r - \frac{1}{r} = \frac{1}{r} \times 4 - \frac{1}{r} = \frac{4}{r} - \frac{1}{r} = k = B \quad (2)$

$$\alpha + \beta = -\frac{b}{a} = -4 \quad \alpha\beta = \frac{c}{a} = a$$

$$\Delta = b^2 - 4ac = 16 - 4a = 4 - a$$

$$\alpha, \beta = \frac{-3 \pm \sqrt{4-a}}{2}$$

$\alpha < \beta$

$\alpha = -3 - t$

$\beta = -3 + t$

$$\alpha^r = (-3-t)^r = 9 + 4t + t^r \quad \beta^r = (-3+t)^r = 9 - 4t + t^r \rightarrow r\alpha^r + r\beta^r = r(9 + 4t + t^r) + r(9 - 4t + t^r)$$

$$\frac{1}{\sqrt{u_1}} + \frac{1}{\sqrt{u_2}} = a \rightarrow u_1 + u_2 = \frac{m+k}{4} \quad u_1, u_2 = \frac{1}{4}$$

$$\frac{1}{\sqrt{u_1}} + \frac{1}{\sqrt{u_2}} = \frac{\sqrt{u_1} + \sqrt{u_2}}{\sqrt{u_1 u_2}} \Rightarrow \sqrt{u_1 u_2} = \frac{1}{4} \rightarrow \sqrt{A} = \frac{1}{4}$$

$$\frac{\sqrt{u_1} + \sqrt{u_2}}{\frac{1}{4}} = 4(\sqrt{u_1} + \sqrt{u_2}) = a$$

$\sqrt{u_1} + \sqrt{u_2} = \frac{a}{4}$

$-\ln^2 + 4\ln + 1 = 0$

$P = \frac{c}{a} = \frac{r}{-1} = -r$

$r\alpha = m + k + 1r$

$m = -1$

$$\left( \frac{r\alpha}{4} = \frac{m+k}{4} + r\left(\frac{1}{4}\right) \right) \times 4$$

ادامہ ۶-

معادله سکتی  $\rightarrow y - 3 = -\frac{1}{8}(x - 5)^2$

$$y - 3 = -\frac{1}{8}(0 - 5)^2 \rightarrow y = -\frac{1}{8}$$

محل برخورد سهمی با محور عرضی ها :

فاصله تا مبدأ منحنی  $\frac{1}{8}$