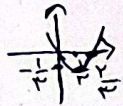
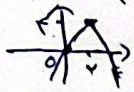


الف) $y = \frac{3}{4}x^2 - 2x$ $a > 0 \rightarrow \min$ $x_s = -\frac{b}{2a} = \frac{2}{\frac{3}{2}} = \frac{4}{3} \Rightarrow y_s = -\frac{\Delta}{4a} = -\frac{1}{3}$ نامیبی سوز

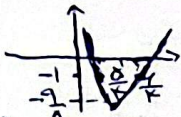
$3x^2 - 2x = x(x - \frac{2}{3})$ $y=0 \rightarrow \begin{cases} x=0 \\ x=\frac{2}{3} \end{cases}$



ب) $y = -\frac{1}{2}x^2 + 2x$ $a < 0 \rightarrow \max$ $x_s = -\frac{b}{2a} = 2 \Rightarrow y_s = -\frac{\Delta}{4a} = 2$ نامیبی دوس



الف) $y = 2x^2 - 5x + 2 \rightarrow a > 0 \rightarrow \min$ $x_s = -\frac{b}{2a} = \frac{5}{4}$, $y_s = -\frac{\Delta}{4a} = -\frac{b^2 + 4ac}{4a} = -\frac{25 + 16}{16} = -\frac{9}{4}$



x	1/2	5/4	2
y	-1	-9/4	-1

نامیبی اول دردم و چهارم

ب) $y = -x^2 + 4x - 1 \rightarrow a < 0 \rightarrow \max$ $x_s = -\frac{b}{2a} = 2$, $y_s = -\frac{\Delta}{4a} = -\frac{b^2 + 4ac}{4a} = -\frac{16 + 4}{-4} = 5$

x	1	2	3
y	2	3	2



نامیبی اول دردم و چهارم دوسم

الف) $\frac{a+B}{a-B} = \frac{s}{\sqrt{a}} = \frac{1}{\sqrt{13}} = \frac{\sqrt{13}}{13}$ $s = -\frac{b}{a} = \frac{1}{1} = 1$, $p = \frac{c}{a} = -3$
 $x^2 - x - 3 = 0$

ب) $a^2 + B^2 = s^2 - 2sp = 1 - 2(-3) = 7$

2) $a^3 + B^3 = s^3 - 3sp^2 = 1 + 9 = 10$

3) $a^3 - B^3 = (a-B)(a^2 + aB + B^2)$

$= (\frac{\sqrt{a}}{|a|}) (s^2 - 2sp + p^2) = (\frac{\sqrt{13}}{13}) (7 - 3) = 4\sqrt{13}$

تجزیه جابجایی $y = (x-2)(x^2 - dx + d)$

$\Delta < 0$
 $\frac{1}{a^2} - 4a < 0$
 $d(a-4) < 0$

x	0	4
y	1+9-3+	

$2x^2 - 12x - d = 0$, $2a^2 + B^2 - 4a = 7 \rightarrow a^2 + a^2 + B^2 - 4a = 7$ $s^2 - 2sp + \frac{d}{2} = 7$

$2a^2 - 12a - d = 0 \Rightarrow a^2 - 6a = \frac{d}{2}$ $s = -\frac{b}{a} = 6$, $p = \frac{c}{a} = -\frac{d}{2}$

$4 + \frac{2d}{2} + \frac{d}{2} = 7$

$2B^2 - 12B - d = 0$

$2x^2 - 12x + 9 = 0$ $\frac{d}{2} = \frac{9}{2} = \boxed{-3}$

$14 + \frac{2d}{2} = 7$

$\Rightarrow 14 + d = 7$

$\Rightarrow d = -7$

$x^2 - 12x + 27 = 0$

$(x-9)(x-3) = 0$

$B(\sqrt{-2a}, a-\sqrt{a}) = A(\sqrt{a+2}, a-\sqrt{a})$ $a=2 \rightarrow$ در جوابه

$\frac{\sqrt{-2a} + \sqrt{a+2}}{\sqrt{a}} = b = \frac{a}{\sqrt{a}} \quad S(a, 2) \rightarrow \frac{-b'}{\sqrt{a}'} = a \Rightarrow b' = -10a'$

$a'x + b'x + c = y \quad a'x - 10a'x + c = y \quad x=2 \quad y=2 = 2a' - 20a' + c =$
 $-18a' = 2 \Rightarrow a' = -\frac{1}{9} \Rightarrow c = -\frac{1}{9}$
 $k=1 \rightarrow a' + b' + c = 1 \quad -2a' + c = 1 \rightarrow$
 $a' + -10a' + c = 1 \quad -9a' + c = 1 \quad -19a' = 2$

$F_0 B^r + \gamma_0 a^r - \gamma_0 B = 1V \quad dx^r - dx - b = 0$
 $\gamma B^r + a^r - B = 0, \Delta \quad x^r - x - \frac{b}{a} = 0 \rightarrow x^r - x + \frac{1}{10} = 0$
 $S^r - \gamma P + \frac{b}{a} = 1 + \frac{\gamma b}{a} = 0, \Delta \quad B^r - B = \frac{b}{a} \quad |x-B| = \frac{\sqrt{\Delta}}{|a|} = \sqrt{\frac{1}{100}}$
 $\frac{\sqrt{1}}{10} = \frac{\sqrt{\Delta}}{10} \Rightarrow \Delta = 1$
 $\frac{\sqrt{1}}{10} = \frac{1}{10}$

$(-a, B), (1, B) \quad 1 - \frac{x}{\gamma} = -r \rightarrow dx^r \rightarrow -\frac{b}{\gamma a} = -r \Rightarrow b = \gamma a$
 $dx^r + \gamma a x + \frac{\gamma}{\gamma} = y \quad x = -r, y = -\frac{1}{\gamma} \rightarrow \gamma a - \gamma a + 1 = -0.18$
 $\Rightarrow \gamma a = r \Rightarrow a = \frac{1}{\gamma} \quad \frac{1}{\gamma} x^r + \gamma x + \frac{\gamma}{\gamma} = y \rightarrow x = 1 \rightarrow \frac{1}{\gamma} + \gamma + \frac{\gamma}{\gamma} = \frac{1}{\gamma} + 2\gamma$

$x^r + \gamma x + a = 0 \rightarrow x^r + \gamma x = -a$
 $P = a, S = -\gamma \quad Fx^r + \gamma Fx = -Fa$
 $\gamma x^r + \gamma B^r = 1\sqrt{\gamma} + \gamma a$
 $\gamma(S^r - \gamma P) + \gamma^r = 1\sqrt{\gamma} + \gamma a \quad x^r - \gamma a = 1\sqrt{\gamma} + \gamma^r \Rightarrow a = 1$
 $\gamma(-\gamma - \sqrt{\gamma - a})^r = 9 + 9 - a + 4\sqrt{\gamma - a} = 18 - a + 4\sqrt{\gamma - a}$
 $\gamma(-\gamma + \sqrt{\gamma - a})^r = 9 + 9 - a - 4\sqrt{\gamma - a} = 18 - a - 4\sqrt{\gamma - a}$
 $\gamma(-\gamma - \sqrt{\gamma - a})^r + \gamma(-\gamma + \sqrt{\gamma - a})^r = 2(18 - a) = 36 - 2a = 36 - 2(1) = 34$

$\frac{1}{\sqrt{a}} + \frac{1}{\sqrt{b}} = \frac{\sqrt{b} + \sqrt{a}}{\sqrt{ab}} = a \rightarrow a\sqrt{ab} = \sqrt{b} + \sqrt{a}$
 $\gamma a P = S + \gamma \sqrt{P} \quad \gamma \sqrt{\frac{1}{\gamma a}} = \frac{\gamma}{a} = \frac{1}{\gamma a}$
 $\frac{\gamma a}{\gamma a} = \frac{m + 1 + 1}{\gamma a} \Rightarrow m + \gamma a = \gamma a \Rightarrow m = -1$
 $m x^r + \gamma x + \gamma = 0 \quad -x^r + \gamma x + \gamma = 0$
 $P = \frac{c}{a} = \frac{\gamma}{-1} = -\gamma$