

$$y = 3x^2 - 2x = x(3x - 2) = 0$$

$$x = 0 \quad 3x - 2 = 0 \quad x = \frac{2}{3}$$

$$x > 0 \quad x = \frac{2}{3}$$

تقاطع رأس = $(\frac{1}{3}, -\frac{1}{3})$



ناحیه سوم

1

$$y = -x^2 + 4x = -(x^2 - 4x) = -(x(x - 4)) = 0$$

$$x = 0 \quad x = 4$$

تقاطع رأس = $(2, 4)$

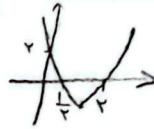


ناحیه دوم

$$y = 2x^2 - 5x + 2 \quad x = \frac{5 \pm \sqrt{9}}{4} \quad x = 2$$

$$x = \frac{1}{2}$$

تقاطع رأس = $(\frac{5}{4}, -\frac{9}{8})$

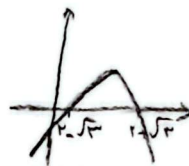


1 و 2 و 4

2

$$y = -x^2 + 4x - 1 \quad x = \frac{-4 \pm \sqrt{12}}{-2} = 2 \pm \sqrt{3}$$

تقاطع رأس = $(2, \frac{5}{2})$



1, 2 و 4

$$\frac{a+b}{a-b} = \frac{5}{\sqrt{5}} = \frac{1}{\sqrt{5}} = \left(\frac{1}{\sqrt{5}}\right)$$

$$a^2 + b^2 = s^2 - 2p = 1 - (-9) = 10$$

$$a^2 + b^2 = s^2 - 2ps = 1 + 9 = 10$$

$$\left(\frac{a}{|a|}\right)(s^2 - 2p + p) = \left(\frac{a}{|a|}\right)(s^2 - p)$$

$$(\sqrt{5})(10) = 10\sqrt{5}$$

$$a - b = (a - b)(a^2 + b^2 + ab) =$$

3

$$x^2 - ax + a \triangleleft 0 \Rightarrow a^2 - 4a < 0 \quad a(a - 4) < 0$$

$$\frac{0}{+} < \frac{4}{+}$$

$$x^2 - ax + a = (x - 2)^2 = x^2 - 4x + 4 = x^2 - 4x + 4 \Rightarrow a = 4$$

$$(0, 4) \cup \{4\} = (0, 4]$$

4

$$2x^2 - 12x + 9 = 0$$

$$a^2 - 4a = \frac{9}{4}$$

$$a^2 + b^2 + a^2 - 4a = 10$$

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

$$a = -9$$

$$s^2 - 2p - p = 10$$

$$2x^2 - 12x - 9 = x^2 - 4x + 9 = (x - 2)^2(x - 1) = 0$$

$$s^2 - 2p = 10$$

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

$$14 + a = 10$$

5

$(V, r, a, a-r)$ و $(r, a+r, a-r)$
 في $0 < r < a$

$$\frac{V - r_0 a + r_0 a + r}{r} = d = \frac{-b}{r_0 a}$$

$b = -10a$

(a, r) و $(0, r)$
 $y = K(r-d)^r + r$
 $A(9, 1)$ $K(1-d)^r + r = 1$
 $B(1, 1)$ $K = -\frac{1}{\lambda}$
 $a-r > 0$ $r < a$ $a < r$ $a > r \Rightarrow a \geq r \Rightarrow a = r$
 $-\frac{1}{\lambda}(0-d)^r + r = -\frac{1}{\lambda}$

$1 - \frac{1}{\lambda} r = \frac{1}{\lambda}$

$$r_0 B^r + r_0 a^r - r_0 B = 1V \quad r_0 (a^r + B^r) + \frac{r_0 B^r - r_0 B}{a} = r_0 (S^r - rP) + \frac{r_0 b}{a} = 1V$$

$$aB^r - aB = b$$

$$B^r - B = \frac{b}{a}$$

$$r_0 B^r - r_0 B = \frac{r_0 b}{a}$$

$$r_0 (1 + \frac{r_0 b}{a}) + \frac{r_0 b}{a} = 1V \quad r_0 + \frac{r_0 b}{a} + \frac{r_0 b}{a} = 1V$$

$$(a-B)^r = S^r - rP = 1 - \frac{1}{a} = \frac{a-1}{a} \Rightarrow |a-B| = \sqrt[r]{\frac{a-1}{a}} = \frac{r}{\sqrt{a}} = \frac{r\sqrt{a}}{a}$$

$\frac{r_0 b}{a} = -r$ $P = \frac{1}{r}$
 $\frac{b}{a} = -\frac{1}{r_0}$ $b = -\frac{a}{r_0}$

$(-a, B)$ و $(1, B)$ في $0 < r < a$
 $\frac{1-a}{r} = -r$ و $1 < B < a$ و $(-r, -\frac{1}{r})$

$$y = K(r+d)^r - \frac{1}{r} \Rightarrow y = \frac{1}{r} (r+d)^r - \frac{1}{r}$$

$$\frac{r}{r} = K(0+r)^r - \frac{1}{r}$$

$$r = rK$$

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

$$B = \frac{1}{r} (1+r)^r - \frac{1}{r} = \frac{9}{r} - \frac{1}{r} = \frac{8}{r}$$

$$(0)^r + 9(0) + a > 0 \Rightarrow a > 0$$

$$r(\alpha^r + B^r) + d^r = 12\sqrt{r} + 11a$$

$$r(S^r - rP) + d^r$$

$$12 - 9a + 11 + 9\sqrt{9-a} - a = 12\sqrt{r} + 11a$$

$$9 + 9\sqrt{9-a} - a = 12\sqrt{r} + 11a$$

$$9\sqrt{9-a} - a = 12\sqrt{r} - a \Rightarrow$$

$$x^2 + 4x + a$$

$$x = \frac{-4 \pm \sqrt{16-4a}}{2}$$

$$d = -3 - \sqrt{9-a}$$

$$d^r = 9 + 9 - a + 9\sqrt{9-a}$$

$$d^r = 11 + 9\sqrt{9-a} - a$$

$$da = a$$

$$\frac{9\sqrt{9-a}}{9-a} = \frac{12\sqrt{r}}{9-a} = \sqrt{11} \Rightarrow a = 1$$

$$\frac{1}{\sqrt{a}} + \frac{1}{\sqrt{B}} = a \quad \frac{\sqrt{B+a}}{\sqrt{aB}} = a \Rightarrow \frac{B+a + r\sqrt{aB}}{aB} = \omega = \frac{m+r}{r^2} + r \cdot \frac{1}{r}$$

$$m+r = r\omega \Rightarrow m = -1$$

$$-x^2 + 4x + r = 0$$

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