

$$\alpha^2 - \alpha\beta + \gamma = 0$$

$$\alpha\beta + \beta^2$$

سؤال ١

$$\beta^2 - \alpha\beta + \gamma = 0$$

$$\alpha\beta^2$$

ب و ا

$$\alpha^2 + \alpha\beta + \gamma = 0 \quad \beta^2 = \beta \cdot \beta^2 = \beta(\alpha\beta - \gamma) = \alpha\beta^2 - \gamma\beta = \gamma\beta^2 - \gamma\beta = \gamma\beta^2 - \gamma\beta$$

~~$$\alpha + \beta = \omega \quad \alpha\beta = \gamma \quad \alpha^2 - \alpha\beta + \gamma = 0 \quad \beta^2 - \alpha\beta + \gamma = 0$$~~

ادامه سوال یک اضافه

$$(\gamma, -\gamma)$$

$$(-1/\omega, -\gamma)$$

سؤال ٢

$$y = ax^2 + bx + c$$

$$-f = 9a + 3b + c$$

$$= 9a = 9(1/\omega)a + 1/\omega b$$

$$-f = 2(1/\omega)a + 1/\omega b + c$$

$$r_1 + r_2 = -\frac{b}{a}$$

$$f(r) = f(1/\omega) = -f \quad 9a + 3b + c - 2(1/\omega)a + 1/\omega b + c = 0$$

$$9(1/\omega)a + 4/\omega b = 0$$

$$f/\omega b = -4(1/\omega)a$$

$$b = -\frac{4(1/\omega)a}{f/\omega}$$

$$b = -\frac{4(1/\omega)a}{f/\omega}$$

$$b = -1/\omega a$$

$$r_1 + r_2 = -\frac{b}{a}$$

$$+1/\omega a = (1/\omega) \frac{f/\omega}{f/\omega}$$

سؤال ٣

$$\alpha^2 + 2K\alpha + \omega = 0$$

$$\Delta = \frac{f}{\gamma} K$$

$$\frac{K^2}{\gamma}$$

$$\frac{\Delta}{1/\omega}$$

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

$$fK^2 - \frac{f}{\gamma} K$$

$$\sqrt{fK^2 - \frac{f}{\gamma} K}$$

$$= \frac{f}{\gamma} K = 9 \quad fK^2 - \frac{f}{\gamma} K = \frac{14}{9} K^2$$

$$fK^2 - \frac{f}{\gamma} K - \frac{14}{9} K^2 = 0$$

$$\frac{34K^2 - 14K^2}{9} = \frac{f}{\gamma} K$$

$$= 9 \quad \frac{20K^2}{9} = \frac{f}{\gamma} K = 9 \quad K = \frac{f}{\gamma}$$

$$\frac{K^2}{\gamma} = 9 \frac{f}{\gamma} = 9$$

$$\frac{9}{\gamma} = f, \omega \leq f$$

سؤال ٤

$$B = (-\omega, y)$$

$$A = (x, y)$$

محورهای اصلی

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

$$\alpha, \beta = -\frac{\omega + \gamma}{2} = -1$$

Arman

$$(-1, 1) \quad (-\omega, y) \quad (r, y)$$

سوال ۴ ← ✓

$$a^r + \beta^r = 0 \quad f(x) = a(x-h)^r + k \Rightarrow f(x) = a(x+1)^r + 1$$

$$f(a) = a(a+1)^r + 1 = 0 \Rightarrow a(a+1)^r = -1 \Rightarrow (a+1)^r = (\beta+1)^r$$

$$f(\beta) = a(\beta+1)^r + 1 = 0 \Rightarrow a(\beta+1)^r = -1$$

$$a^r - \beta^r + ra - r\beta = 0 \Leftrightarrow a^r + ra = \beta^r + r\beta$$

$$(a^r - \beta^r)(a + \beta) + r(a - \beta) = 0 \Rightarrow (a - \beta)[(a + \beta) + r] = 0$$

$$x \text{ نمی تواند مقادیر اینها را داشته باشد} \Rightarrow a - \beta = 0 \Rightarrow \beta = a \quad \checkmark$$

$$\frac{\beta + a}{r} = -1$$

$$\beta + a = -r$$

$$\frac{(a + \beta)^r}{r} = \frac{a^r + \beta^r + ra\beta}{\omega}$$

$$\Rightarrow a\beta = -\frac{1}{r}$$

$$a\beta = \frac{c}{a} \Rightarrow \frac{a+1}{a} = -\frac{1}{r} \Rightarrow a = -\frac{r}{r+1}$$

$$\Rightarrow a = -\frac{r}{r+1}$$

$$f(x) = a(x^r + rx + 1) + 1 \Rightarrow ax^r + rax + (a+1) \quad c = a+1$$

$$C = -\frac{r}{r+1} + 1 = \frac{1}{r+1}$$

$$\text{مقدار } (\frac{1}{r+1}, 0)$$

نمی رسد به ۱ و ۰ در نقطه

سوال ۵ ← ✓
 $\beta, \alpha < \frac{9}{r}$

$$-x^r + \omega x + m = 0 \quad a = -1 \quad b = \omega \quad c = m$$

$$x^r - \omega x - m = 0 \quad b^r - fac > 0$$

$$ra + fm > 0 \quad rm < -ra \quad m > -\frac{ra}{r}$$

$$m \in \{-4, -2, -1, \dots\}$$

$$a + \beta = -\frac{b}{a} = \omega$$

$$h = \frac{a + \beta}{r} = \frac{\omega}{r}$$

$$-x^r + \omega x = -m$$

$$\frac{9}{r} = f(\omega)$$

$$g(\frac{9}{r}) = -(\frac{9}{r})^r + \omega(\frac{9}{r}) = \frac{9}{r}$$

$$g(x) = -x^r + \omega x \quad y = -m$$

$$\frac{9}{r} > -m$$

$$-\frac{9}{r} < m$$

$$+\frac{m}{r} > -\frac{ra}{r}$$

$$m > -4, ra$$

←

Arman

$$\Rightarrow m \in \{-4, -2, 0, 1, 2, \dots\}$$

بسیار m وجود دارد

سوال 1 ✓

$$\beta^f = \beta \cdot \beta^r = \beta(2\beta - 10) = 2\beta^2 - 10\beta = 2\beta(\beta - 5) - 10\beta = 11\beta$$

$$-44 - 10\beta = 10\beta - 44 \quad \beta^a = \beta \cdot \beta^a = \beta(10\beta - 44) = 10\beta^2 - 44\beta$$

$$10\beta(2\beta - 5) - 44\beta = 20\beta^2 - 50\beta - 44\beta = 4\beta^2 - 210$$

$$4a + \beta^a = 4a + (4\beta^2 - 210) \quad a = a - \beta$$

$$4(a - \beta) + 4\beta^2 - 210 = 4a - 4\beta + 4\beta^2 - 210 = 4\beta^2 - 4\beta - 210$$

$$a\beta^r = a(2\beta - 5) = 2a\beta - 5a \quad 4\beta^2 - 4\beta - 210 = 4\beta^2 - 4\beta - 210$$

$$2a\beta - 5a = 4\beta^2 - 4\beta - 210 \quad 2a\beta - 10 = 4\beta^2 - 4\beta - 210$$

$$\frac{19(2a\beta) - 19(10)}{2a\beta - 10} = \frac{19(2a\beta - 10)}{2a\beta - 10} = 19$$

سوال 4 ✓

$$y = mx^2 - 12x + 2m - 1 \quad \min | -2 - \frac{\Delta}{4a}$$

$$- (144 - 4m(2m - 1)) = 4 \quad -144 + 4m^2 - 4m$$

$$4(-36 + 2m^2 - m) = 4 \quad 2m^2 - 34m - 36 = 4m = 3$$

$$a = 2m^2 - 34m - 36 = 4m = 3$$

$$\frac{3 \pm \sqrt{9 + 4 \cdot 4 \cdot 3}}{2 \cdot 2} = \frac{3 \pm 5}{4} = 2 \quad y = 2x^2 - 12x + 14$$

$$x_5 = \frac{12}{4} = 3 = 4 \quad x = 2$$

سوال 5

$$t = x^r$$

$$x^r - vx^r - a = 0 \Rightarrow x^r + vx^r - a = 0$$

سوال 1

$$P = \frac{c}{a} \quad S = -\frac{b}{a}$$

$$rP^r - rSP + rS$$

$$a \rightarrow \frac{r}{1} x + vx + a + 1r$$

$$P = \frac{-a}{1} = -a \quad S = \frac{+v}{1} = v$$

$$= 199$$

$$y = Kx^r - rx - q$$

$$y = -rx - q$$

سوال 4

$$Kx^r - rx - q = -rx - q$$

$$Kx^r = r$$

$$x = \pm \sqrt{\frac{r}{K}}$$

$$\omega \omega x = \frac{\beta + a}{r}$$

$$-\frac{b}{a}$$

$$= \text{معينه}$$

$$\beta + a = -\frac{b}{a}$$

$$-\frac{b}{a} = -q$$

$$-\frac{b}{ra}$$

$$-\frac{b}{ra} = \pm \sqrt{\frac{r}{K}}$$

$$-\frac{r}{rK} = q$$

$$\frac{r}{rK} = q$$

$$\frac{r}{K} = \pm \sqrt{\frac{r}{K}}$$

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

$$= 199$$

$$x = r$$

$$y = rx^r - rx - q$$

$$= q \quad y = \frac{r - r - q}{-1}$$

$$y = -1$$

سوال 6

$$y = -mx^r + mx + 1$$

$$y = -m - x$$

$$-mx^r + mx + 1 = -m - x$$

$$-mx^r + mx + 1 + m + x = 0 \quad a = -m \quad b = m+1 \quad c = m+1$$

$$-mx^r + mx + 1 + m$$

$$= q$$

$$x(m+1)$$

$$m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1$$

$$m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1 \quad m+1$$

$$\Rightarrow mx^r - (m+1)x - m+1 = 0 \Rightarrow a = m \quad b = -(m+1) \quad c = -(m+1)$$

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

$$(m+1)^2 + 4m(m+1) < 0$$

$$(m+1)(m+1) + 4m(m+1) < 0$$

$$m+1 = 0 \quad m = -1$$

$$(m+1)[m+1+4m] < 0$$

$$\Delta m+1 = 0 \quad m = -\frac{1}{5}$$

$$-1 < m < -\frac{1}{5}$$

سوال 7

سوال ۷ ←

$$ar + r(a+1) + ra - 1 = 0$$

$$r + \beta = -r(a+1)$$

$$\alpha\beta = ra - 1$$

$$ar = ra - 1$$

$$ar - ra + 1 = 0 \quad (a-1)r = 0$$

$$a = 1$$

حالا α, a, β پیدا

$$\frac{a}{\alpha} = \frac{\beta}{a}$$

$$ar = \alpha\beta$$

Arman