

تلف شماره ۱۳ آید مقرر باز هم ۱۳

۱۴، ۱۵

$$y = (a-1)x^2 + x + 1$$

$$x = 1$$

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

$$x = \frac{-b}{2a} \Rightarrow \frac{-1}{2(a-1)} = x \Rightarrow -1 = 2a-2 \Rightarrow a = \frac{1}{2}$$

$$y=0 \rightarrow 0 = (a-1)x^2 + x + 1 \Rightarrow (\frac{1}{2}-1)x^2 + x + 1 \Rightarrow -x^2 + 2x + 1 = 0 \Rightarrow x^2 - 2x - 1 = 0$$

$$x = \frac{2 \pm \sqrt{(-2)^2 - 4(1)(-1)}}{2} \Rightarrow x_1 = 2, x_2 = -1$$

$$f(x) = mx^2 - 2x + m$$

x_1	x_2
$-\frac{1}{m}$	$-\frac{1}{m}$

همه رو باین است $m < 0$

۱) $\Delta > 0$

$$m < 0$$

$$-\frac{2}{m} < m < \frac{2}{m} \Rightarrow (-\frac{2}{m}, 0)$$

$$\Delta = 4 - 4(m)(m) > 0 \Rightarrow 4 - 4m^2 > 0 \Rightarrow 1 - m^2 > 0 \Rightarrow m^2 < 1 \Rightarrow -1 < m < 1$$

$$x_1 = \frac{1+\sqrt{5}}{2}, x_2 = \frac{1-\sqrt{5}}{2}$$

$$x_1 + x_2 = \frac{1+\sqrt{5}}{2} + \frac{1-\sqrt{5}}{2} = 1$$

$$(x^2 - 1x + \frac{1}{4}) = 0$$

$$x_1 x_2 = \frac{(1+\sqrt{5})(1-\sqrt{5})}{2^2} = \frac{1-5}{4} = -1$$

$$4x^2 - 4x + 1 = 0$$

$$2x^2 - 2x + m + 1 = 0$$

$$\alpha + \beta = \frac{-(-2)}{2} = 1$$

$$\frac{\alpha\beta}{2} = \frac{m+1}{2} \Rightarrow m+1 = \alpha\beta$$

$$2\alpha^2 + \beta^2 = 12$$

$$\alpha\beta = \frac{m+1}{2}$$

$$\alpha + \beta = 1 \Rightarrow \beta = 1 - \alpha$$

$$m = 1$$

$$m = 1$$

$$2\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta = 1 - 2\alpha\beta = 12 \Rightarrow -2\alpha\beta = 11 \Rightarrow \alpha\beta = -\frac{11}{2}$$

$$2\alpha^2 + (1-\alpha)^2 = 12 \Rightarrow 2\alpha^2 + 1 - 2\alpha + \alpha^2 = 12 \Rightarrow 3\alpha^2 - 2\alpha - 11 = 0$$

$$(\alpha - 1)^2 = 0 \Rightarrow \alpha = 1$$

$$\beta > \alpha \Rightarrow \beta = 1 - 1 = 0$$

$$\alpha\beta = 1 \times 0 = 0$$

$$g(1, a) \quad y = a, x = 0 \quad a = 11a + 1 \Rightarrow a = \frac{1}{11} = \frac{1}{11} \Rightarrow$$

$$a = a(0-9)^2 + 1$$

$$y = \frac{1}{11}(x-9)^2 + 1 \Rightarrow \frac{1}{11}(x-9)^2 + 1 = 0 \Rightarrow (x-9)^2 = -11$$

$$a(0-9)^2 + 1 = 0 \Rightarrow a = -\frac{1}{81}$$

$$(0-9)^2 < 0$$

$$-1 < a < 0$$

همه چیز تقاطع با محور x ندارد / دایره ها و بیضی ها

$$4x^2 - 4x + 9 = 0$$

$$ax^2 + bx + c = 0 \quad \alpha + \beta = -\frac{b}{a}$$

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

$$\frac{1}{\alpha} + \frac{1}{\beta} = ?$$

$$\alpha + \beta = \frac{4}{\alpha} \Rightarrow 3 + \beta = \frac{4}{\alpha} \Rightarrow \beta = \frac{4}{\alpha} - 3$$

$$\frac{9\beta}{\alpha} = \frac{9}{\alpha} \Rightarrow \alpha = \frac{9}{\alpha} \Rightarrow \alpha^2 = 9 \Rightarrow \alpha = \pm 3$$

$$\alpha = 3 \rightarrow -3 + \beta = \frac{4}{3} \Rightarrow \beta = \frac{4}{3} + 3 = \frac{13}{3}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = -\frac{1}{3} + \frac{3}{13} = \frac{10}{39}$$

$$x^2 + mx - 1m = 0$$

$$\alpha + \beta = -m, \alpha\beta = -1m$$

(V)

$$\alpha^2 - m\beta = 1 \rightarrow \alpha^2 = -m\alpha + 1m \rightarrow -(-m)m + 1m = 1 \Rightarrow m^2 + 1m - 1 = 0$$

$$m = \frac{-1 \pm \sqrt{1 + 4}}{2} = \frac{-1 \pm \sqrt{5}}{2}$$

$$m = 2, m = -1$$

$$-m = \alpha + \beta \Rightarrow$$

$$-1 = \alpha + \beta \Rightarrow m = 2$$

$$(-1, 2)$$

$$+1 = \alpha + \beta$$

$$m = -1$$

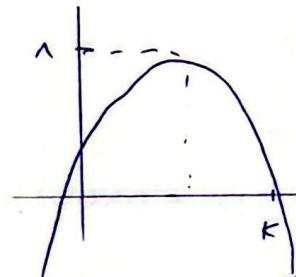
$$P(x) = mx^2 + cx + \frac{m}{r} + v$$

$$\Delta = (-1)^2 - 4(1)(-1) = 5 \Rightarrow$$

$$m_1 = 2, m_2 = -1$$

جول سب سے زیادہ

$$m < 0$$



$$m < 0$$

$$(k, 1)$$

$$f(x) = ax^2 + bx + c$$

$$x = -\frac{b}{2a} = -\frac{r}{m} \Rightarrow k = -\frac{r}{m}$$

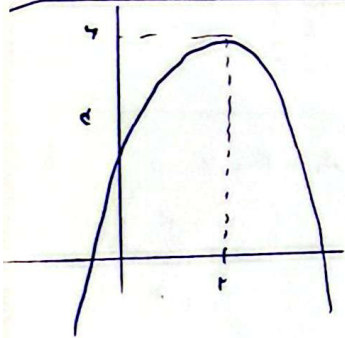
$$y = 1 \Rightarrow 1 = m\left(-\frac{r}{m}\right)^2 + c\left(-\frac{r}{m}\right) + \frac{m}{r} + v$$

$$1 = -\frac{c}{m} + \frac{m}{r} + v \Rightarrow rm = m^2 - 1 \Rightarrow$$

$$m^2 - rm - 1 = 0$$

$$k = \frac{-r}{m} = \frac{-r}{-r} = 1$$

$$k = 1 \rightarrow$$



$$y = ax^2 + bx + c \rightarrow S(1, 4) \rightarrow 1a + 1b + c = 4$$

$$1a + b = 1 / x_s = -\frac{b}{2a} = 1 \rightarrow -b = 2a \Rightarrow b = -2a$$

$$1a - 2a = 1 \rightarrow -a = 1 \Rightarrow a = -1$$

$$b = -2(-1) = 2, y = -x^2 + 2x + 4$$

$$\Delta = 4 - 4(-1)(4) = 12$$

$$x_1 = \frac{-2 + \sqrt{12}}{-2} = 1 - \sqrt{3}$$

$$x_2 = \frac{-2 - \sqrt{12}}{-2} = 1 + \sqrt{3}$$

$$-\frac{1}{r} = \text{مجموع جملوں}$$

$$x^2 - (ca + c)x + (ra^2 + 4a + c) = 0$$

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

$$r^2 - (ca + c)(r) + (ra^2 + 4a + c) = 0 \Rightarrow ra^2 - ra - 1 = 0$$

$$x_1 + x_2 = ca + c \rightarrow r + r = ca + c \Rightarrow r = ca + 1$$

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

$$a_1 = 1, a_2 = -\frac{1}{r}$$

$$r = c(1) + 1 = 4, a = 1$$

$$r = c(-\frac{1}{c}) + 1 = -\frac{1}{c} + 1 = \frac{c-1}{c}, a = -\frac{1}{c}$$