

تلف شماره ۱۳ آید مقرر بازه ۱۳

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

$$x = 1$$

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

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

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

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

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

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

همه رو باین است $m < 0$

$\Delta > 0$

$$m < 0$$

$$-\frac{1}{m} < m < \frac{1}{m} \Rightarrow \left(-\frac{1}{m}, 0\right)$$

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

$$1 - m^2 > 0 \Rightarrow -1 < m < 1$$

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

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

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

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

$$4x^2 - 18x + 5 = 0$$

$$2x^2 - 18x + m + 1 = 0$$

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

$$m = 1$$

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

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

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

$$2\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta = 1 - 2\alpha\beta = 12$$

$$2\alpha^2 + (\frac{1}{2} - \alpha)^2 = 12 \Rightarrow 2\alpha^2 + (\frac{1}{4} - \alpha + \alpha^2) = 12 \Rightarrow 3\alpha^2 - \alpha + \frac{1}{4} = 12$$

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

$$\beta > \alpha \Rightarrow \beta = \frac{1}{2} - 1 = -\frac{1}{2}$$

$$g(1, 9) \quad y = 5, x = 0 \quad \omega = 11a + 1 \Rightarrow a = \frac{1}{11} = \frac{1}{11} \Rightarrow$$

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

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

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

$$4x^2 - 7x + 9\beta = 0$$

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

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

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

$$\alpha + \beta = \frac{7}{4} \Rightarrow 3 + \beta = \frac{7}{4} \Rightarrow \beta = -\frac{5}{4}$$

$$\alpha = 3$$

$$-3 + \beta = -\frac{5}{4} \Rightarrow \beta = -\frac{5}{4} + 3 = \frac{7}{4}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = -\frac{1}{3} + \frac{4}{7} = \frac{1}{21}$$

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

$$\alpha + \beta = -m, \alpha\beta = -2m$$

(V)

$$\alpha^2 - m\beta = 1 \rightarrow \alpha^2 = -m\alpha + 2m$$

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

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

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

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

$$(-2, 2)$$

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

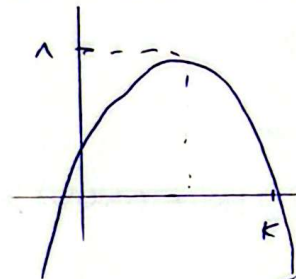
$$P(x) = mx^2 + cx + \frac{m}{r} + v$$

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

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

جول سب سے زیادہ

$$m < 0$$



$$m < 0$$

$$(k, 1)$$

(1)

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

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

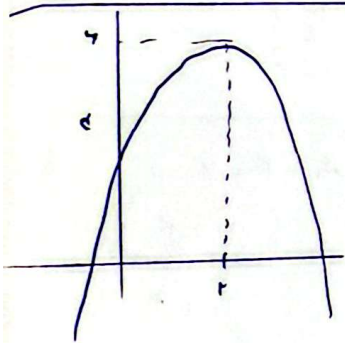
$$y = 1 \Rightarrow 1 = m\left(-\frac{r}{m}\right)^2 + c\left(-\frac{r}{m}\right) + \frac{m}{r} + v$$

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

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

$$k = \frac{-r}{m} = \frac{-2}{-1} = 2$$

$$k = 1 \rightarrow$$



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

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

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

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

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

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

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

$$\left(-\frac{1}{2}\right) =$$

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

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

$$x^2 - (2a + 4)x + (1a^2 + 4a + 4) = 0 \Rightarrow 1a^2 - 2a - 1 = 0$$

$$a = \frac{2 \pm \sqrt{4+4}}{2} = 1, -1$$

$$x_1 + x_2 = 2a + 4 \rightarrow 1 + 1 = 2a + 4 \Rightarrow 2 = 2a + 4 \Rightarrow a = -1$$

$$a_1 = 1, a_2 = -1$$

$$r = 4(1) + 2 = 6 \quad a = 1$$

$$r = 4(-1) + 2 = -2 \quad a = -1$$