

به هم خداداد رنگین گمان



یادداشت درس ریاضی

تاریخ: / /

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منطقه دو عملیات انتقال گاز

$$y = a(x-h)^2 + k$$

1

$$y = a(x+1)^2 + 9$$

$$x=3, y=1$$

$$1 = a(3+1)^2 + 9$$

$$1 = 16a + 9$$

$$-16 = 16a$$

$$a = -\frac{1}{4}$$

$$y = -\frac{1}{4}(x+1)^2 + 9$$

$$\rightarrow y = -\frac{1}{4}x^2 - x + \frac{17}{4}$$

$$y = -x^2 - 4x + 17$$

$$+ \text{دو ضلعی} \quad 2x^2 + mx + m + 4 = 0 \quad -2$$

$$\text{شرط اول: } \Delta > 0 \rightarrow m^2 - 4(2)(m+4) > 0$$

$$m^2 - 8m - 32 > 0$$

$$-4 \quad 12$$

$$+ \quad - \quad +$$

$$(m+4)(m-12) > 0$$

$$\text{شرط دوم: } \frac{c}{a} > 0 \rightarrow \frac{m+4}{2} > 0$$

$$m+4 > 0$$

$$m > -4$$

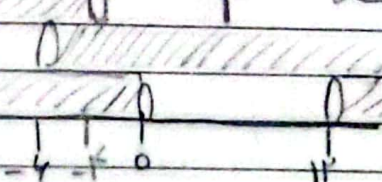
$$-4 < m < 0 \quad (-4, 0)$$

$$\text{شرط سوم: } \frac{-b}{2a} > 0 \rightarrow \frac{-m}{2 \times 2} > 0$$

$$-\frac{m}{4} > 0$$

$$-m > 0$$

$$m < 0$$



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$$3 - \text{درجه دارایی} = 2m + (m-1) \times 2 = 0 \quad \text{سه درجه دارایی صحت}$$

درجه دارایی = معادله حاصل از درجه

$$-(m-1) = \frac{a}{c} = \frac{1}{2-m}$$

$$\frac{-2m+1}{1} = \frac{1}{2-m} \rightarrow \begin{aligned} 9 &= (-2m+1)(2-m) \\ 9 &= -2m+2m^2+2-m \\ 9 &= 2m^2-3m+2 \end{aligned}$$

$$2m^2 - 3m - 7$$

$$a+c=b$$

$$\begin{aligned} m &= -1 \\ m &= \frac{-c}{a} = \frac{+7}{2} \end{aligned}$$

دارای درجه صحت $\Rightarrow$

$$m = -1$$

$$\Delta = (2m-1)^2 - 12(2-m)$$

$$4m^2 + 4m - 12$$

$$2-1-12$$

دانش

$$m = \frac{V}{P}$$

$$m = \frac{V}{P}$$

$$1 \times \frac{19}{1} + 1 \times \frac{V}{P} - 12$$

$$19 + 11 - 12$$

دانش



$$x_1, x_2$$

$$x_1^2 - x_2 - 1^2 = 0$$

4

$$x_1 x_2 = 1^2$$

معادلی

جدید:

$$\left(x_1 + \frac{1}{x_2}\right) \times \left(x_2 + \frac{1}{x_1}\right)$$

$$x_1 + x_2 = +1 = 1$$

$$x_1^2 \times x_2^2$$

$$+ x_1^2 \times \frac{1}{x_2}$$

$$+ \frac{1}{x_1} \times x_2^2$$

$$+ \frac{1}{x_1 x_2}$$

$$(-f)^2$$

$$+ x_1^2$$

$$+ x_2^2$$

$$+ \frac{1}{-f}$$

$$= \frac{11f}{f}$$

$$1 - 2(-f) = 1 + 1 = 2$$

$$x_1^2 + x_2^2$$

$$+ \frac{1}{x_1} + \frac{1}{x_2}$$

$$\rightarrow \frac{x_1 + x_2}{x_1 x_2} = \frac{1}{-f}$$

$$= \frac{1}{-f}$$

$$= \frac{1}{-f}$$

$$= \frac{1}{-f}$$

$$= \frac{1}{-f}$$

$$= \frac{1}{-f}$$

$$(x_1 + x_2)(x_1^2 + x_2^2 - ab)$$

$$= 1$$

$$2 - (-f) = 1^2$$

$$= 1^2$$

$$= 1^2$$

$$= 1^2$$

$$= 1^2$$

$$= 1^2$$

$$= 1^2$$

$$= 1^2$$

$$x_1^2 - \frac{11}{f} x_2 - \frac{11}{f} = 0$$

معادلی جدید

$$f x_1^2 - 11 x_2 - 11 = 0$$

$$\left(t + \frac{1}{t} + 1\right)(t-1) = r t^r$$

-2

$$t^r - \cancel{t} + 1 - \frac{1}{\cancel{t}} + \cancel{t} - 1 \Rightarrow t^r - \frac{1}{t} = r t^r$$

$$0 = t^r + \frac{1}{t}$$

$$t^r + 1 = 0$$

$$(t+1)(t^r+1-t) = 0$$

$\times t \rightarrow$
 $t \neq 0$

$$t = -1$$

$$t^r + 1 - t = 0$$

$\bar{0} \bar{0} \bar{e}$

$$\Delta = 1 - f(-1)(1) = 1 + f = \delta$$

$$\Delta = \frac{1 \pm \sqrt{\delta}}{r}$$

$$= \frac{1 + \sqrt{\delta}}{r}$$

$$= \frac{1 - \sqrt{\delta}}{r}$$

$\bar{0} \bar{0} \bar{e}$

$$\sqrt{\delta} = \frac{1 + \sqrt{\delta}}{r}$$

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$$3x^2 - ax + 1 = 0$$

$$\alpha = 3\beta$$

-6

$$\frac{-b}{a} = \frac{+a}{3}$$

$$\alpha\beta = 3\beta \times \beta = 3\beta^2$$

$$\frac{+a}{3} = \frac{1}{3} + \frac{1}{3}$$

$$3\beta^2 = \frac{1}{3} \rightarrow 9\beta^2 = 1$$

$$9\beta^2 = 1 \rightarrow \beta^2 = \frac{1}{9}$$

$$\beta = \pm \frac{1}{3}$$

حالت 1

$$\frac{a}{3} = \frac{1}{3}$$

$$a = 1$$

$$\alpha = 3 \times \pm \frac{1}{3}$$

$$\alpha = \pm 1$$

حالت 2

$$\frac{a}{3} = \frac{-1}{3} = \frac{-1}{3}$$

$$a = -1$$

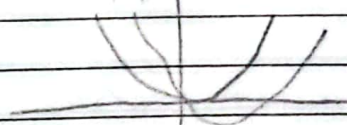
$$a = -1$$

★ نکته: 14

$$+ \frac{c}{a}$$

هر دو هم علامت دارند

$$y = ax^2 + (3+2a)x$$



$$ax^2 + 3x + 2ax$$

 $a > 0$: دایرهif $\Delta = 0$ → نقطه ی برش
مستقیم

دایره

if $\Delta > 0$

$$y = 0 (ax + 3 + 2a)$$

$$ax + 3 + 2a > 0$$

$$-\frac{3}{a} < 0$$

$$-\frac{3-2a}{a} > 0$$

$$\frac{3+2a}{a} < 0$$

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$$\infty \text{ باز} \rightarrow -\frac{r}{2} < a < 0$$

$$\left[-\frac{r}{2}, 0\right)$$

$$y = ax^2 + ax - r \rightarrow \infty = \frac{-b}{2a} = \frac{-a}{2}$$

$$y = -x^2 - 2x + b \rightarrow \infty = \frac{-b}{2a} = \frac{+r}{2 \times -1} = \frac{r}{-2} = -1$$

$$\frac{-a}{2} = -1 \quad \frac{a}{2} = 1 \quad \boxed{a = 2}$$

$$ab = 0 \times 1 = 0$$

$$1 = (-1)^2 - 2(-1) + b$$

$$1 = -1 + 2 + b$$

$$\boxed{0 = b}$$

$$2x^2 - ax + b = 0$$

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

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

$$\alpha\beta = \frac{b}{2}$$

$$\alpha + \beta = \frac{+a}{2}$$

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

$$\frac{a}{2} + 1 = \frac{-a}{2}$$

$$\frac{a}{2} = -1 \rightarrow \boxed{a = -2}$$

$$2x^2 + ax - 4 = 0 \quad g$$

$$\alpha'\beta' = \frac{-4}{2} = -2$$

$$\alpha' + \beta' = \frac{-a}{2}$$

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

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

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

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$$\frac{b}{2} + \frac{a}{2} + \frac{1}{2} = -3$$

$$\frac{b}{2} - \frac{1}{2} + \frac{1}{2} = -3$$

$$\frac{b}{2} = -3$$

$$b = -6$$

$$\left[\frac{(-6)(-1)}{2} \right] = \left[1 \frac{2}{2} \right] = 1$$

$$2x^2 + 2x - 3m = 0$$

$$2x^2 + 4x + m = 0$$

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

$$2x + 1m = 0$$

$$2x^2 + 2x + 3(2x + 1m) = 0$$

$$2x^2 + 8x + 3m = 0$$

$$2x^2 + 2x - 3m = 0$$

$$2x^2 + 4x + m = 0$$

$$2x = -2x - 3m$$

$$2(x + m) = 0$$

$$x = -m$$

$$2(x + 2) = 0$$

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

$$2 \times 6$$

$$(x - 3)(x + 4) = 0$$

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

$$1 \times 2$$

$$(x + 1)(x + 2) = 0$$

$$\star \quad 3 - (-1) = 3 + 1 = 4$$