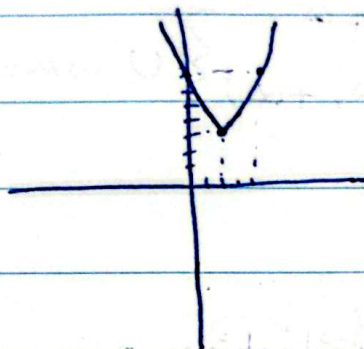


سوال اولی

-1

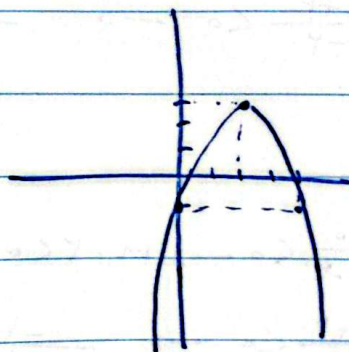
الف) $y = x^2 - 5x + 6$ $x_1 = \frac{-b}{2a} = 2.5$ $y_1 = 3$

x	0	2	3
y	6	3	3



ب) $y = -x^2 + 5x - 6$ $x_1 = \frac{-b}{2a} = 2.5$ $y_1 = 3$

x	0	2	3
y	-6	3	-1



-2

$\Delta > 0 \rightarrow (m+1)^2 - 5(m+1) > 0 \rightarrow$

(ف)

$m^2 + 1 + 2m - 5m - 1 > 0 \rightarrow m^2 - 3m - 1 > 0$

$\frac{-3 \pm \sqrt{17}}{2}$

$m \in (-\infty, -1) \cup (4, +\infty)$

$\Delta = 0 \rightarrow m^2 + 2m - 5m - 1 = 0 \rightarrow m^2 - 3m - 1 = 0$

(ب)

$m = -1, m = 4$

$\Delta < 0 \rightarrow m^2 - 3m - 1 < 0 \rightarrow \frac{-3 \pm \sqrt{17}}{2} \rightarrow m \in (-1, 4)$

(ج)

Subject:

Year.

Month.

Date.

Sa	Su	Mo	Tu	We	Th	Fr
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ادام :

$$\Delta = 0 \vee \Delta > 0$$

()

$$\Delta = 0 \rightarrow m = -3, m = 0$$

$$\Delta > 0 \rightarrow (-\infty, -3) \cup (0, +\infty) \} \cup \rightarrow m \in (-\infty, -3] \cup [0, +\infty)$$

-۳

$\Delta > 0 \rightarrow$ نیازی به بررسی نیست، دو شرط داشته‌ایم

(الف)

$$P > 0 \rightarrow \frac{10}{m-2} > 0 \rightarrow m-2 > 0 \rightarrow m > 2$$

$$S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{+} \frac{2}{-} \rightarrow m \in (-1, 2)$$

(-

$$P < 0 \rightarrow \frac{10}{m-2} < 0 \rightarrow m-2 < 0 \rightarrow m < 2$$

$$S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{+} \frac{2}{-} \rightarrow m \in (-1, 2) \} n$$

$$\Delta > 0 \rightarrow \text{معادله} \rightarrow P < 0$$

$$m \in (-1, 2)$$

-۴

$$P < 0 \rightarrow \frac{10}{m-2} < 0 \rightarrow m-2 < 0 \rightarrow m < 2$$

(الف)

$$\Delta > 0 \rightarrow \text{معادله}$$

(-

$$\frac{b}{a} = -2 \rightarrow \frac{2m+2}{2m-2} = -2 \rightarrow -\{m+1\} = 2m+2 \rightarrow 4m = 4 \rightarrow$$

$$m = 1$$

$$m \neq 1$$

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GOLBARG

Subject:

Year:

Month:

Date:

Sa	Su	Mo	Tu	We	Th	Fr
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- (c)

$$\beta > 0 \rightarrow \beta_2 = \frac{v}{r}$$

$$\frac{r \sin^2 \alpha}{r} - (r \sin \alpha) r + \frac{v}{r} \xrightarrow{\times r} r \sin^2 \alpha - 1 r (\sin \alpha) r + v$$

$$\beta_2 + 1 r \sin \alpha \pm \sqrt{1 r^2 \sin^2 \alpha - 1 r^2} \rightarrow 1 r^2 (\sin^2 \alpha - 1) \rightarrow \sin^2 \alpha - 1 \geq 0 \rightarrow$$

$$\sin^2 \alpha \geq 1 \rightarrow \sin^2 \alpha = 1 \rightarrow \sin \alpha = \pm 1$$

$$\sin \alpha = 1 \rightarrow r = \frac{1 r}{1} = \frac{v}{r}$$

$$\sin \alpha = -1 \times \vec{r} + \vec{v} \cdot \vec{r}$$

پریا امینی

-4

$$y = \frac{(r_m^2 - r_m - 1)(r_m^2 - r_m - \omega)}{1 - r^2}$$

$$y = \frac{\cancel{(r-1)}(r_m+1)\cancel{(r+1)}(r_m-\omega)}{\cancel{-(r-1)}\cancel{(r+1)}} = -(r_m+1)(r_m-\omega)$$

$$f(m) = -(4m^2 - 1\omega m + r_m - \omega) = -4m^2 + 13m + \omega$$

$$f_{max} = y_s = \frac{-\Delta}{\epsilon a} = \frac{-b^2 + 4ac}{\epsilon a} = \frac{-144 - 120}{-24} = \frac{264}{24}$$

-V

$$m r^2 - (m+r)m - r = 0 \rightarrow S = \frac{m+r}{m} = \frac{r}{r} \quad P = \frac{-r}{m} = -\frac{1}{r}$$

$$r(\alpha + \beta) = \omega(\alpha + \beta) + V \rightarrow \frac{r_m + 4}{m} = \frac{-10 + Vm}{m} \rightarrow r_m + 4 = -10 + Vm \rightarrow$$

$$\epsilon m = 14 \rightarrow m = 7$$

$$\alpha^2 + \beta^2 = S^2 - 2P = \frac{9}{r} - 2(-\frac{1}{r}) = \frac{9}{\epsilon} + \frac{\epsilon}{\epsilon} = \frac{10}{\epsilon}$$

$$m^2 - \omega m + \gamma = 0$$

$$S = \omega \quad P = \gamma$$

$$\frac{\epsilon \alpha + \beta \omega}{\omega \beta \gamma}$$

- 1

$$\alpha + \beta = \omega \rightarrow \alpha = \omega - \beta$$

$$\beta \gamma = \omega \beta - \gamma$$

$$\beta \gamma = \gamma \beta - 10$$

$$\frac{\epsilon \alpha + \epsilon \sqrt{9\beta - 210}}{\omega \beta \gamma} \rightarrow$$

$$\beta \epsilon = 10\omega \beta - \epsilon \gamma$$

$$\frac{\epsilon(\omega - \beta) + \epsilon \sqrt{9\beta - 210}}{\omega \beta \gamma} \rightarrow$$

$$\beta \omega = \epsilon \sqrt{9\beta - 210}$$

$$\frac{\gamma_0 - \epsilon \beta + \epsilon \sqrt{9\beta - 210}}{\omega \beta \gamma} = \frac{\epsilon \sqrt{9\beta - 210}}{\omega \beta \gamma} = \frac{\phi(9\omega \beta - 210)}{\phi \beta \gamma} \rightarrow$$

$$\frac{9\omega \beta - 210}{\omega \beta - \gamma}$$

$$\omega = \frac{\omega \pm \sqrt{14}}{2}$$

$$\beta_1 = \frac{\omega + \sqrt{14}}{2} \rightarrow$$

فاصل

$$\frac{\gamma_0 \epsilon}{14} = 19$$

$$\beta_2 = \frac{\omega - \sqrt{14}}{2} \rightarrow$$

فاصل

$$\frac{\gamma_0 \epsilon}{14} = 19$$

جواب نهایی = 19

GOLBARG

Subject:

Year.

Month.

Date.

Sa	Su	Mo	Tu	We	Th	Fr
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پریا ایشی

$$ax^2 + bx + c = x^2 + 10 \rightarrow ax^2 + (b-x)x + (c-10) = 0 \quad -9$$

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

$$a(x^2 + x - 4) = ax^2 + (b-x)x + (c-10)$$

$$a = a, \quad b-x = a \rightarrow b = a+x, \quad c-10 = -4a$$

$$E = a(0)^2 + b(0) + c \rightarrow c = E$$

$$c-10 = -4a \rightarrow E-10 = -4a \rightarrow a = 1$$

$$b = a+x \rightarrow b = 1+x = 3$$

$$y = x^2 + 3x + E$$

$$x_5 = \frac{-b}{2a} = \frac{-3}{2}$$

-10

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

$$x^2 + mx + m+4 = 0 \rightarrow \Delta = 0$$

$$\Delta = 0 = m^2 - 4(m+4) = m^2 - 4m - 16 = 0 \rightarrow (m+8)(m-12) = 0 \rightarrow$$

$$m = -8, \quad m = 12$$

$$\hookrightarrow \text{خوبی} \rightarrow \frac{b}{2a} = -3 \leftarrow m = 12$$

اول قرار ندارد