

الف) $y = 2x^2 - 4x + 1$

ext $\left| \frac{-b}{2a} = \frac{4}{4} = 1 \right.$

ext $\left| \frac{-1}{-1} \right.$

Min دارد

ب) $-2x^2 + 3x - 5$

ext $\left| \frac{-3}{-4} = \frac{3}{4} \right.$
 $\frac{-\Delta}{2a} = \frac{9 - 40}{-8} = -\frac{31}{8}$

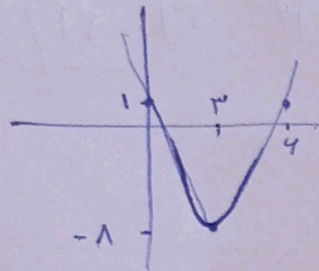
ext $\left| \frac{31}{8} \right.$

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حاکسیم دارد

الف)

Min

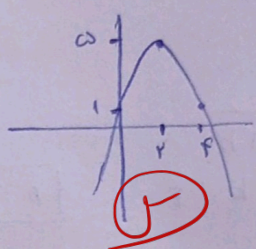


$y=1 \rightarrow x=0$
 $\rightarrow x=4$
 (0, 1)
 (4, 1)

ext $\left| \frac{3}{-4} \right.$

ب)

Max



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

ext $\left| \frac{3}{4} \right.$

$$\left. \begin{aligned} 2\alpha^2 + k\alpha^2 - 9\alpha - 2 = 0 \\ 2\beta^2 + k\beta^2 - 9\beta - 2 = 0 \end{aligned} \right\} \begin{aligned} 2(\alpha^2 + \beta^2) + k(\alpha^2 + \beta^2) - 9(\alpha + \beta) - 4 = 0 \\ 2\alpha + 2\beta + k\alpha + k\beta - 9 - 4 = 0 \end{aligned}$$

$\alpha^2 + \beta^2 = s^2 - 2sp = 1 - 2(-1) = 3$
 $\alpha + \beta = s^2 - 2p = 1 - 2(-2) = 5$

$2\alpha + 2\beta + k\alpha + k\beta - 9 - 4 = 0$
 $2k = -10$
 $k = -5$

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$\sqrt{\alpha} - \sqrt{\beta} = 1$
 $(\sqrt{\alpha} - \sqrt{\beta})^2 = 1 \Rightarrow \alpha + \beta - 2\sqrt{\alpha\beta} = 1$
 $2t^2 - 2t - 1 = 0$

$2m - 2\sqrt{m} = 1$
 $\Rightarrow \sqrt{m} = 1$
 $t = 1$
 $t = -\frac{1}{2}$

$\sqrt{m} = t$
 $m = 1$

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M, N

$MN = \frac{-m}{2} = -\frac{1}{2}$

$\frac{\text{ارتفاع} \times \text{قاعده}}{2} = \frac{3}{2}$
 $m \left(\left| \frac{m}{2} - 1 \right| \right) = \frac{3}{2}$

$m \left(\frac{m}{2} - 1 \right) = \frac{3}{2}$
 $m^2 - 2m - 3 = 0 \rightarrow m = -1$

$m \left(1 - \frac{m}{2} \right) = \frac{3}{2}$
 $-m^2 + 2m - 3 = 0 \rightarrow m = 3$

m جواب ندارد

ext $\left| \frac{-b}{2a} = \frac{-1}{2} \right.$
 ext $\left| -\frac{b}{2a} = \frac{3}{2} \right.$

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$x^2 + x + 1$

$x^2 - 3x + 1$

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$a > 0 \rightarrow \text{Min}$

$$-\Lambda a^2 + Va + 1\Lambda = 0$$

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$$\frac{-\Delta}{f a} = \frac{V}{A_r}$$

$$\frac{9 - f a^2}{-a} = \frac{V}{r}$$

$$a^2 + Va - 12f = 0$$

$$(a+14)(a-9) = 0$$

$$a = \frac{-14}{-1} = 14 \checkmark$$

$$a = -\frac{9}{\Lambda} \text{ و } a > 0$$

یک مقدار a

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ریشه های معادله \Rightarrow اول \rightarrow مجموع فرایض \rightarrow مورد نرد طبیعی متوالی \rightarrow 1 و 3

اختلاف حاصل ضرب ریشه ها

$$9 - 2a - 2 + a = 0$$

$$-2a = -9 \quad a = 3$$

$$|b-a| = |12f - 3| = 21$$

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$$x^2 - 10x + b = 0$$

$$\frac{\sqrt{\Delta}}{|a|} = 2$$

$$\sqrt{100 - 4b} = 2$$

$$b = 24$$

$$y_1 = -ax^2 + ax + 2$$

$$\text{ext} \left| \frac{-a}{-2a} = \frac{1}{2} \right.$$

$$-\frac{1}{f}a + \frac{1}{r}a + 2 = \frac{1}{r}b - \frac{1}{f}b - 1 \Rightarrow a = -12$$

$$y_2 = 2bx^2 - bx - 1$$

$$\text{ext} \left| \frac{b}{2b} = \frac{1}{2} \right.$$

$$-\frac{1}{14}a + \frac{1}{f}a + 2 = \frac{1}{r}b - \frac{1}{f}b - 1$$

$$\frac{2}{f} = -\frac{1}{f}b \quad b = -4$$

$$\Rightarrow b - a = -4 - (-12) = 8$$

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$$\alpha B = \frac{B}{r\omega\alpha}$$

$$y = -\omega x^2 + rx + 1$$

$$\text{ext} \left| \frac{-f}{-2\omega} = \frac{r}{2\omega} \right.$$

معادله

$$\alpha = \pm \frac{1}{\omega}$$

$$\alpha = \frac{1}{\omega} \Rightarrow B = \frac{r}{\omega} - \frac{1}{\omega^2} - 1$$

چون $B > \alpha$

$$\alpha + B = \frac{-f}{r\omega\alpha}$$

$$\alpha = -\frac{1}{\omega} \Rightarrow B = \frac{r}{\omega} + \frac{1}{\omega} = 1 \checkmark$$

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$$ab = a + b - 1 \Rightarrow p = s - 1$$

$$a + b = a^2 + b^2 - 12 \Rightarrow s = s^2 - 2p - 12$$

$$\left. \begin{aligned} s &= s^2 - 2(s-1) - 12 \\ \Rightarrow s &= s^2 - 2s - 10 \end{aligned} \right\}$$

$$s^2 - 4s - 10 = 0$$

$$(s-5)(s+2) = 0$$

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$$s = 5 \checkmark$$

$$s = -2 \text{ و } a + b > 1$$

چون a, b طبیعی

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