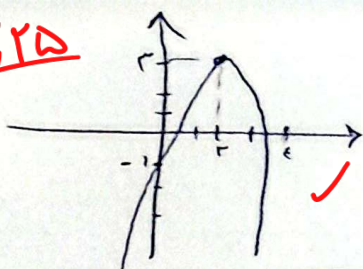
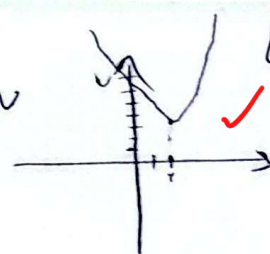


$$y = -x^2 + x - 1$$

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$$y = x^2 - 2x + 1$$



مردی کاظمی

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

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

۲ - الف

$$x^2 - 2m - 1 > 0 \quad (m+1)(m-1) > 0$$

$$m \Rightarrow (-\infty, -2) \cup (2, \infty)$$

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

$$m < -2 \quad (1)$$

$$m \Rightarrow (-\infty, -2) \cup (2, \infty)$$

$$m > 2 \quad (2)$$

$$a = m < 0 \rightarrow m < 2$$

$$\Delta = (m+1)^2 - 4(m+1) = m^2 - 2m - 1$$

۵ - الف

ا حتماً نباید منفی باشد!

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



$$p < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow m < 2$$

$$m+1 \geq 2(m-2)$$

$$m+1 \geq 2m-4 \rightarrow m \leq 5$$

$$\Delta = (-2 \sin \alpha)^2 - 4 \left( \frac{r}{r} \right) \left( \frac{r}{r} \right) \geq 0$$

$$4 \sin^2 \alpha - 4 \geq 0 \rightarrow \sin^2 \alpha \geq 1 \rightarrow \sin \alpha = \pm 1 \rightarrow \omega$$

$$n = \frac{r}{r} = \frac{r \times r}{r^2} = \frac{r}{r} \checkmark \quad n = \frac{-r}{r(\frac{r}{r})} = -\frac{r}{r}$$

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$$x^2 - 2m - 1 = (x+m+1)(x-m-1) \quad 1 - x^2 = -(x^2 - 1) = -(x-1)(x+1)$$

۱ - ۹

$$y = \frac{(x+m+1)(x-m-1)}{-(x-1)(x+1)} \rightarrow y = \frac{(x+m+1)(x-m-1)}{-(x-1)(x+1)} \quad y_{max} = \frac{2m+9}{2r}$$

$$S = \frac{m+r}{m} \quad P = \frac{-r}{m} \rightarrow rS = aP + V \rightarrow r \left( \frac{m+r}{m} \right) = a \left( \frac{-r}{m} \right) + V \rightarrow r_m + r = -\frac{a}{m}r + V$$

$$S = \frac{r}{r}, P = -\frac{1}{r} \rightarrow n_1^2 + n_2^2 = \left( \frac{r}{r} \right)^2 - r \left( -\frac{1}{r} \right) \rightarrow n_1^2 + n_2^2 = \left( \frac{1}{r} \right) \checkmark \quad (2)$$

$$\alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2\alpha\beta \quad (\alpha + \beta) = S \quad \alpha\beta = P \rightarrow \alpha^2 + \beta^2 = S^2 - 2PS \rightarrow \alpha^2 + \beta^2 = 1$$

$$\frac{\alpha^2 + \beta^2}{\alpha\beta} = \frac{1}{\alpha\beta} = \frac{1}{a} \quad (19)$$

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$$a x^2 + (b-r)x - 1 \geq 0 \rightarrow x^2 \geq \frac{1}{a} \rightarrow 9a \geq 1 \rightarrow a \geq \frac{1}{9} \geq \frac{r}{r} \quad (2) - 9$$

$$b = 2 - 4 - \frac{r}{r} = \frac{r}{r} \quad n = \frac{-b}{2a} = \left( \frac{1}{r} \right) \checkmark$$

$$m^2 - 12m - 24 = 0 \rightarrow m = 6 \pm 6\sqrt{2}$$

$$n = \frac{-m-1}{r} > 0 \quad m < -1$$

۵ - ۱۵

$$m \geq 2\sqrt{2}$$

تابع با خط  $y = n$  قطع کند و  $\Delta = 0$  قدر دوم:

$$x^2 + (m+1)x + m+4 = 0 \rightarrow x^2 + mx + m+4 = 0$$

$$\Delta = 0 \rightarrow m^2 - 4(m+4) = 0 \rightarrow \begin{cases} m = 12 \rightarrow \text{ناصحی سوم} \\ m = -4 \rightarrow \text{ناصحی اول} \end{cases}$$