

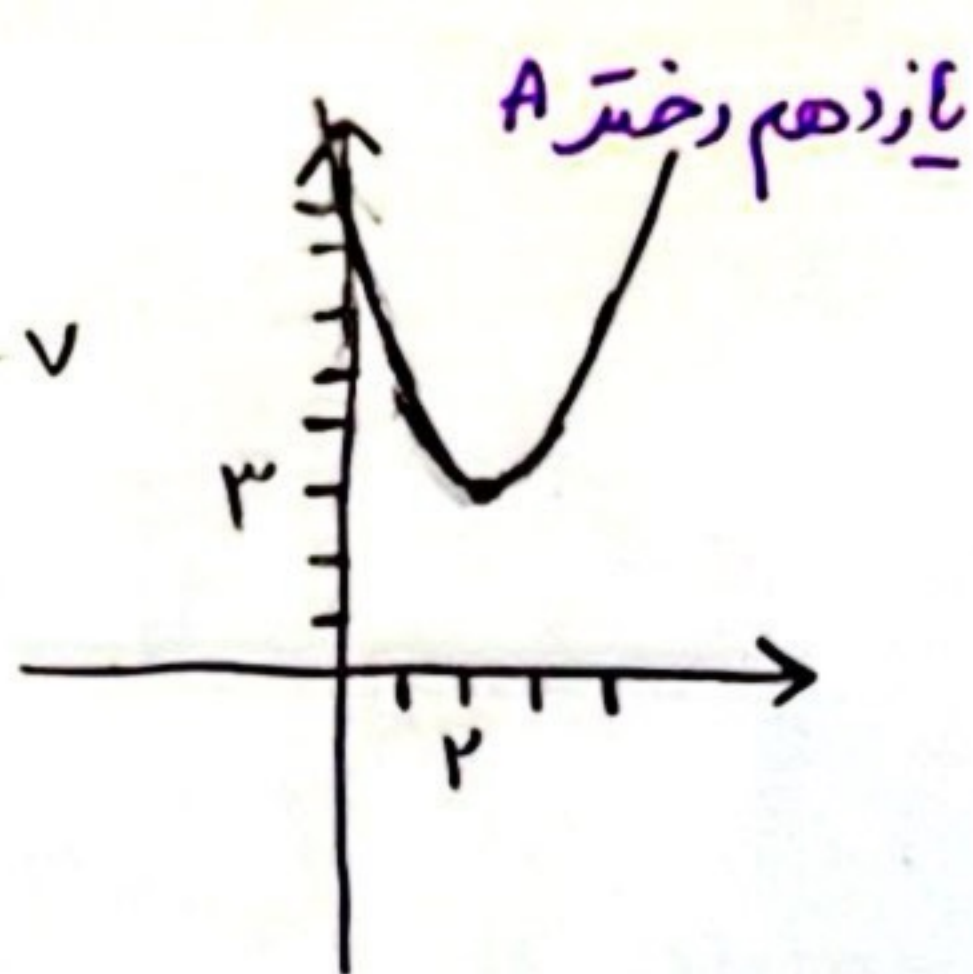
تعلیف شماره ۱۲

الف) $y = x^2 - 8x + 7$

$a > 0 \Rightarrow$ بالا

$x_S = \frac{-(-8)}{2(1)} = 4$

ب) $y_S = 3$

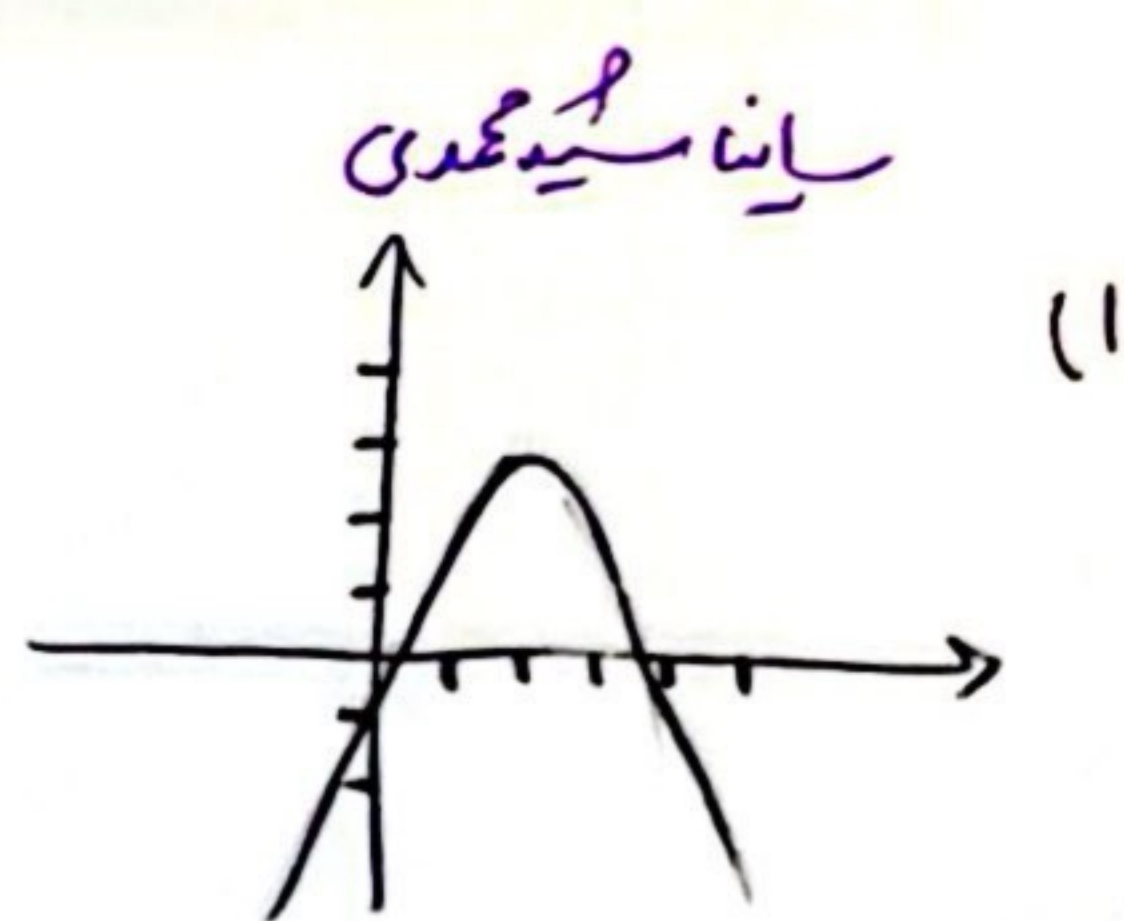


ب) $y = -x^2 + 8x - 1$

$a < 0 \Rightarrow$ پایین

$x_S = \frac{-(8)}{-2} = 4$

ب) $y_S = 3$



$y = (m-2)x^2 - 2(m+1)x + 10$

$\Delta < 0 \Rightarrow$

③ علامه

الف) $\Rightarrow \Delta > 0, P > 0, S < 0 \Rightarrow (-2m-2)^2 - 8(m-2)(10) > 0 \Rightarrow 4m^2 - 32m + 16 > 0$

جای سوال ۲ و ۳
جوابه بالاست

$P > 0 \Rightarrow \frac{10}{m-2} > 0 \Rightarrow \frac{2}{-2} > 0 \Rightarrow (-2, +\infty) = I$

$S < 0 \Rightarrow \frac{2m+2}{m-2} < 0$

$\frac{-1}{+} \frac{2}{-} \Rightarrow (-1, 2)$

$(I) \cap (II) = \emptyset$

ب) $\Delta > 0, P < 0, S < 0$

$(I) \cap (II) = (-1, 2) \Rightarrow m \in (-1, 2)$

$P < 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow \frac{2}{-2} < 0 \Rightarrow (-\infty, 2) = (I)$

$S < 0 \Rightarrow \frac{2m+2}{m-2} < 0 \Rightarrow \frac{-1}{+} \frac{2}{-} < 0 \Rightarrow (-1, 2) = (II)$

الف) $\Rightarrow \Delta > 0 \Rightarrow (m+1)^2 - 8(2)(\frac{1}{2}m+2) > 0 \Rightarrow 2m^2 + (m+1)m + \frac{1}{2}m+2 = 0$

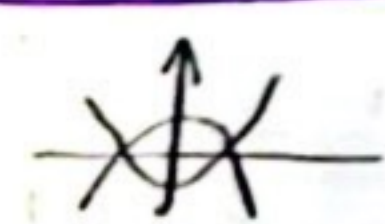
$m^2 + 1 + 2m - 8m - 16 > 0 \Rightarrow m^2 - 6m - 15 > 0 \Rightarrow (m-9)(m+3) > 0$

$\Rightarrow m \in (-\infty, -3) \cup (9, +\infty)$

ب) $\Rightarrow \Delta = 0 \Rightarrow (m+1)^2 - 8(2)(\frac{1}{2}m+2) = 0 \Rightarrow (m-9)(m+3) = 0$

$\Rightarrow m = 9, -3$

ج) $\Delta < 0 \Rightarrow (m-9)(m+3) < 0 \Rightarrow \frac{-3}{+} \frac{9}{-} < 0 \Rightarrow m \in (-3, 9)$



$y = (m-2)x^2 - 2(m+1)x + 10$

④ علامه

۱۴

الف) $\Rightarrow \Delta > 0, P < 0 \Rightarrow (-2m-2)^2 - 8(m-2)(10) > 0 \Rightarrow 4m^2 - 32m + 16 > 0$

$P = \frac{10}{m-2} < 0 \Rightarrow \frac{2}{-2} < 0 \Rightarrow (-\infty, 2) \Rightarrow m < 2$

ب) $\Rightarrow n = -2 \Rightarrow x_S = -2 \Rightarrow \frac{2m+2}{2m-8} = -2 \Rightarrow -8m+16 = 2m+2 \Rightarrow 4m = 6$

$\Rightarrow m = 1.5$

$\frac{2m^2}{3} - (2 \sin \alpha) m + \frac{1}{3} = 0$ $\Delta = (\frac{2}{3})^2 - 4(\frac{1}{3}) = \frac{4}{9} - \frac{16}{9} = -\frac{12}{9} = -\frac{4}{3}$

$P = \frac{1}{3} = m^2 \Rightarrow \frac{1}{3} = m^2 \Rightarrow m = \pm \frac{1}{\sqrt{3}} \Rightarrow m = \pm \frac{\sqrt{3}}{3}$

$$y = \frac{(1) (r^m r - r^m - 1) (1) (r^m r - r^m - \omega)}{1 - r^r} = \frac{r^r (n-1) (n+\frac{1}{r}) r (n-\frac{\omega}{r}) (n+1)}{(-1) 1 - r^r} \quad (4)$$

$$(I) \rightarrow a+b+c=0 \Rightarrow n_1=1 \quad n_r = -\frac{1}{r} = -9(n+\frac{1}{r})(n-\frac{\omega}{r})$$

$$(II) \rightarrow a+c=b \Rightarrow n_1=-1 \quad n_r = \frac{\omega}{r}$$

$$= -4r^r + 13n + \omega \Rightarrow \text{man} = \frac{-\Delta}{2a} = \frac{-b^2 + 4ac}{2a} = \frac{-149 + 2(-9)(\omega)}{-2r} = \frac{219}{2r}$$

$$m n^r - (m+r)n - r = 0$$

$$\alpha + \beta = \frac{-b}{a} = \frac{m+r}{m} = \frac{r+r}{r} = \frac{r}{r}$$

$$r(\alpha + \beta) = \omega(\alpha\beta) + r$$

$$r(\frac{m+r}{m}) = \omega(-\frac{r}{m}) + r$$

$$\alpha\beta = \frac{c}{a} = \frac{-r}{m} = \frac{-r}{r} = -\frac{1}{r}$$

$$\frac{r m + r}{r} = \frac{-10 + \sqrt{m}}{r} \Rightarrow 2m = 19 \Rightarrow m = 9$$

$$\alpha^r + \beta^r = 5^r - r\rho = \frac{9}{2} + 1 = \left(\frac{1r}{2}\right)$$

$$\begin{cases} n^r - \omega n + r = 0 \Rightarrow \alpha\beta = r \Rightarrow \alpha = \frac{r}{\beta} \\ \alpha + \beta = \omega \\ \frac{r\alpha + \beta\omega}{\omega\beta^r} = \frac{\frac{1}{\beta} + \beta\omega}{\omega\beta^r} = \frac{1 + \beta^2}{\omega\beta^r} = \frac{1 + \beta^2}{\omega\beta^r} = \frac{(r+r)(\beta^2 + r - r\beta^r)}{(\beta^r + r)(\beta^2 + r - r\beta^r)} \\ \beta^r - \omega\beta + r = 0 \Rightarrow \beta^r + r = \omega\beta \end{cases} = \frac{\beta^2 + r - r\beta^r}{\beta^r} = \frac{\alpha^r + \beta^r - r}{r} = \frac{11 - r}{r} = 19$$

$$y_r = r n + 10$$

$$n_1 = r \quad n_r = -r$$

$$y_r = a n^r + b n + c$$

$$c = 2$$

$$r n + 10 = a n^r + b n + c \Rightarrow a n^r + (b-r)n - 4 = 0 \Rightarrow n_1 \times n_r = \frac{-4}{a} = -4 \Rightarrow a = 1$$

$$n_1 + n_r = \frac{r-b}{a} = r-b = -1 \Rightarrow b = r$$

$$y_1 = n^r + r n + 2 \Rightarrow \text{man} = \frac{-b}{2a} = \frac{-r}{2} \Rightarrow \left(n = -\frac{r}{2}\right)$$

$$y = r n^r + (m+1)n + m + 9$$

$$\text{man} = \frac{-b}{2a}$$

$$(10)$$

$$\text{man} = \frac{-b}{2a} \Rightarrow y = n$$

$$\Rightarrow r n^r + (m+1)n + m + 9 = n$$

$$\Rightarrow r n^r + m n + m + 9 = 0 \Rightarrow \Delta = 0 \Rightarrow m^2 - 2(r)(m+9) = 0 \Rightarrow m^2 - 18m - 18 = 0$$

$$(m-18)(m+9) = 0 \Rightarrow m = 18, m = -9$$