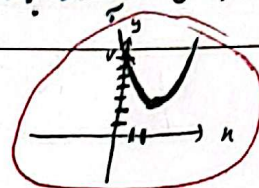
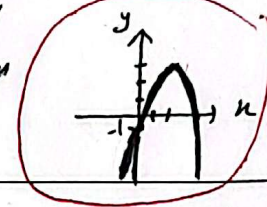


نام و نام خانوادگی: شماره کلاس: ۱۲ پاسخنامه تشریحی تکلیف شماره ۱۲ پایه دهم

الف) $y = x^2 - 2x + 1 \rightarrow \text{ext} \mid x_s = -\frac{b}{2a} = \frac{2}{2} = 1$
 $y_s = 1 - 2 + 1 = 0$



ب) $y = -x^2 + 2x - 1 \rightarrow \text{ext} \mid x_s = -\frac{b}{2a} = 1$
 $y_s = -1 + 2 - 1 = 0$



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

الف) $0 > 0 \Rightarrow m^2 + 2m + 1 - 4(\frac{1}{2}m + 2) > 0 \Rightarrow m^2 - 2m - 7 > 0 \Rightarrow (m-5)(m+3) > 0$
 $m \in (-\infty, -3) \cup (5, +\infty)$

ب) $0 = 0 \Rightarrow m^2 - 2m - 7 = 0 \Rightarrow (m-5)(m+3) = 0 \Rightarrow m = 5 \text{ or } m = -3$
 $m \in \{-3, 5\}$

ج) $0 < 0 \Rightarrow (m-5)(m+3) < 0 \Rightarrow m \in (-3, 5)$

د) $0 \geq 0 \Rightarrow (m-5)(m+3) \geq 0 \Rightarrow m \in (-\infty, -3] \cup [5, +\infty)$

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

الف) $0 > 0 \Rightarrow 4(m^2 + 2m + 1) - 40(m-2) > 0 \Rightarrow 4m^2 - 24m + 44 > 0 \Rightarrow m^2 - 6m + 11 > 0$
 $5 < 0 \Rightarrow \frac{2(m+1)}{m-2} < 0 \Rightarrow \frac{-1}{m-2} > 0 \Rightarrow m \in (-2, 1)$

ب) $0 < 0 \Rightarrow \frac{10}{m-2} > 0 \Rightarrow m > 2 \Rightarrow m \in (2, +\infty)$

ج) $0 = 0 \Rightarrow \frac{10}{m-2} = 0 \Rightarrow m = 2$

د) $0 \geq 0 \Rightarrow \frac{10}{m-2} \geq 0 \Rightarrow m \geq 2 \Rightarrow m \in [2, +\infty)$

ن) $\emptyset$ برای هیچ مقدار حقیقی این شرایط برقرار نیست.

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

ب) $x_s = -2 \Rightarrow \frac{x(m+1)}{x(m-2)} = -2 \Rightarrow m+1 = -2m+4 \Rightarrow 3m = 3 \Rightarrow m = 1$

$0 > 0 \Rightarrow \sin^2 \alpha - 4 \geq 0 \Rightarrow \sin^2 \alpha \geq 4 \Rightarrow \sin \alpha = \pm 1$

زیر شرط مثبت بودن $\sin \alpha = 1$ $\Rightarrow \frac{1}{2}x^2 + \frac{3}{2}x - 2 = 0 \Rightarrow x^2 + 3x - 4 = 0 \Rightarrow (x-1)(x+4) = 0 \Rightarrow x = 1$

ب) $\sin \alpha = -1 \Rightarrow \frac{1}{2}x^2 - 2x + \frac{3}{2} = 0 \Rightarrow x^2 - 4x + 3 = 0 \Rightarrow (x-1)(x-3) = 0 \Rightarrow x = 1 \text{ or } x = 3$

$$y = \frac{(3n^2 - 2n - 1)(2n^2 - 3n - 5)}{1 - n^2} = \frac{(n-1)(3n+1)(2n+1)(2n-5)}{-(n-1)(n+1)} = -4n^2 + 12n + 5$$

$$\Rightarrow \text{ext} / y_1 = -\frac{b}{2a} = \frac{13}{8}$$

$$\boxed{\frac{289}{64}}$$

از آنجایی که بدین ترتیب مقدار رسمی (a < 0) در بالای رأس می بدست می آید و طول آن $\frac{13}{8}$ است و (1) و (1) نیست پس حدت شدن نقطه $n = \pm 1$ در $\max$ تابع قرار.

$$r(\alpha + \beta) = \delta \alpha \beta + \nu \quad s = \frac{m+r}{m} \quad p = \frac{r}{m} \quad r_x \frac{m+r}{m} = \delta x \frac{r}{m} + \nu \Rightarrow r m + s = \nu m - 6$$

$$\Rightarrow m = 16 \Rightarrow m = 4 \Rightarrow 4n^2 - 8n - 2 = 0$$

$$s = -\frac{b}{a} = \frac{8}{4} = 2, p = \frac{c}{a} = \frac{-2}{4} = -\frac{1}{2}$$

$$\alpha^2 + \beta^2 \leq s^2 - 2p = \frac{9}{4} + 1 = \boxed{\frac{13}{4}}$$

$$n^2 - \delta n + r = 0 \Rightarrow \left\{ \begin{aligned} p = \frac{c}{a} = r = \alpha \beta \Rightarrow \beta = \frac{r}{\alpha} \Rightarrow \beta^2 = \frac{r}{\alpha^2} \quad (I) \\ s = -\frac{b}{a} = \delta \end{aligned} \right. \quad (\alpha \beta)^2 = r$$

$$\frac{(\alpha + \beta)^2}{\delta \beta^2} \stackrel{(I)}{=} \frac{r \alpha^2 + (\alpha^2 \beta^2) \beta^2}{r_0} = \frac{r(\alpha^2 + \beta^2)}{r_0} \stackrel{\alpha \beta^2 = r}{=} \frac{12\delta - r_0}{\delta} = \frac{9\delta}{\delta} = \boxed{9}$$

$$y_1 = an^2 + bn + c \xrightarrow{n=0} \begin{cases} y_1 = c \\ y_1 = c \end{cases} \Rightarrow \boxed{c=2} \Rightarrow y_1 = an^2 + bn + 2$$

$$y_2 = 2n + 10$$

$$y_1 = y_2 \Rightarrow an^2 + bn + 2 = 2n + 10 \Rightarrow an^2 + (b-2)n - 8 = 0$$

$$\begin{aligned} n_1 = 2 &\Rightarrow 4a + 2b - 10 = 0 \\ n_2 = -2 &\Rightarrow 4a - 2b = 0 \Rightarrow a = b \Rightarrow b = 2a \end{aligned}$$

$$\Rightarrow 9a - 2b = 0 \Rightarrow a = 2b \Rightarrow b = 2a \quad I$$

$$\Rightarrow (a + 2(2a)) - 10 = 0 \Rightarrow a = 1 \Rightarrow b = 2 \Rightarrow y_1 = n^2 + 2n + 2 \Rightarrow y_2 = \frac{b}{a} = \frac{2}{1} = 2$$

$$\boxed{n = \frac{3}{2}} \quad \text{معادله}$$

$$y = 2n^2 + (m+1)n + m + 5 \quad y = y_1 \Rightarrow 2n^2 + mn + m + 5 = 0$$

$$y_1 = n$$

$$\Rightarrow m^2 - 18m + 28 = 0$$

$$\Rightarrow (m-14)(m-2) = 0 \Rightarrow \boxed{m=14} \quad \boxed{m=2}$$

چون کسی برنیه ساز ناحیه اول می باشد پس نقطه برخورد y_1 و y_2 طول مثبت دارد پس ریشه ی مضاعف آتساری آنها، مثبت است! $\Delta = 0 \Rightarrow -\frac{b}{2a} = -\frac{1}{2} \Rightarrow 2n^2 + 12n + 10 = 0 \Rightarrow \boxed{m = -2}$