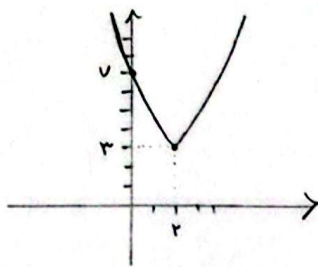
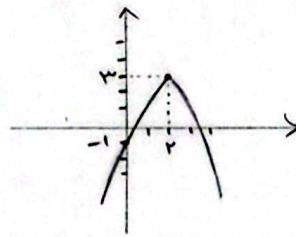


الف) $y = x^2 - 2mx + 7$



$\min \left| \frac{-b}{2a} = \frac{-(-2)}{2} = 2 \right|$
 $(2)^2 - 2(2) + 7 = 3$

ب) $y = -x^2 + 4m - 1$



$\max \left| \frac{-b}{2a} = \frac{-4}{2(-1)} = 2 \right|$
 $-(2)^2 + 4(2) - 1 = 3$

۱

$2m^2 + (m+1)x + \frac{1}{p}m + 2 = 0 \Rightarrow \Delta = (m+1)^2 - 4 \cdot \frac{1}{p}m + 2 = m^2 - 2m + 5$

الف) $\Delta > 0 \Rightarrow m^2 - 2m - 1 > 0 \Rightarrow (m-3)(m+1) > 0 \Rightarrow \frac{-3}{+ \phi - \phi +} \Delta > 0 \Rightarrow m \in \mathbb{R} - [-3, 5]$

ب) $\Delta = 0 \Rightarrow m^2 - 2m - 1 = 0 \Rightarrow (m-3)(m+1) = 0 \Rightarrow m = 3, m = -1$

ج) $\Delta < 0 \Rightarrow m^2 - 2m - 1 < 0 \Rightarrow (m-3)(m+1) < 0 \Rightarrow \frac{-3}{+ \phi - \phi +} \Delta < 0 \Rightarrow m \in (-3, 5)$

د) $\Delta > 0 \Rightarrow m^2 - 2m - 1 > 0 \Rightarrow (m-3)(m+1) > 0 \Rightarrow \frac{-3}{+ \phi - \phi +} \Delta > 0 \Rightarrow m \in \mathbb{R} - (-3, 5)$

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$y = (m-2)x^2 - 2(m+1)x + 10 \Rightarrow \Delta = (2(m+1))^2 - 4(m-2) \cdot 10 = 4m^2 - 4m + 12$

الف) $\Delta > 0 \checkmark$
 $S < 0 \Rightarrow \frac{-(-2(m+1))}{(m-2)} = \frac{2(m+1)}{(m-2)} < 0 \Rightarrow \frac{-1}{+ \phi - \phi +} \frac{2}{-2} \Rightarrow m \in (-1, 2)$
 $P > 0 \Rightarrow \frac{10}{m-2} > 0 \Rightarrow m-2 > 0 \Rightarrow m > 2$

ب) $\Delta > 0 \checkmark$
 $P < 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow m-2 < 0 \Rightarrow m < 2$
 $S < 0 \Rightarrow \frac{2(m+1)}{m-2} < 0 \Rightarrow \frac{-1}{+ \phi - \phi +} \frac{2}{-2} \Rightarrow m \in (-1, 2)$

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

الف) $P < 0 \Rightarrow \frac{10}{m-2} < 0 \Rightarrow m-2 < 0 \Rightarrow m < 2$

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

$\Rightarrow m+1 = -m+4 \Rightarrow 2m = 3 \Rightarrow m = \frac{3}{2}$

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$\frac{2m^2}{p} - (2 \sin \alpha)m + \frac{p}{r} = 0, m > 0$

$\Delta > 0 \Rightarrow 4 \sin^2 \alpha - 4 \left(\frac{p}{r} \right) \left(\frac{p}{p} \right) = 4 \sin^2 \alpha - 4 > 0 \Rightarrow \sin^2 \alpha > 1 \Rightarrow \sin^2 \alpha < 1$

$\sin \alpha < 1 \Rightarrow \frac{p}{r}m^2 - 2m + \frac{p}{r} > 0 \Rightarrow 4m^2 - 4m + 9 > 0 \Rightarrow (2m+3)^2 > 0 \Rightarrow m > \frac{p}{r}$

$\sin \alpha = 1 \Rightarrow \frac{p}{r}m^2 + 2m + \frac{p}{r} > 0 \Rightarrow 4m^2 + 4m + 9 > 0 \Rightarrow (2m+3)^2 > 0 \Rightarrow m > \frac{p}{r}$

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$$y = \frac{(y_m^r - y_m - 1)(y_m^r - y_m - \Delta)}{1 - m^r} = \frac{(m-1)(y_{m+1})(m+1)(y_m - \Delta)}{-(m-1)(m+1)}$$

$$\Rightarrow y = -(y_{m+1})(y_m - \Delta) = -4m^r + 14m + \Delta$$

$$\Rightarrow man = \frac{-\Delta}{r\Delta} = \frac{-(149+140)}{(-4)24} = \boxed{\frac{289}{24}}$$

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$$mm^r - (m+r)m - r = 0 \rightarrow S = \frac{m+r}{m}, P = \frac{r}{m}$$

$$r(\frac{a+B}{S}) = \Delta(\frac{\alpha\beta}{P}) + U \rightarrow r(\frac{m+r}{m}) = \Delta(\frac{-r}{m}) + U \rightarrow \frac{rm+4}{m} = \frac{-b+Um}{m}$$

$$\Rightarrow rm+4 = -b+Um \rightarrow rm=14 \rightarrow m=7$$

$$\Rightarrow S = \frac{r+r}{r} = \frac{q}{r} = \frac{r}{r}, P = \frac{r}{r} = \frac{1}{r}$$

$$\alpha^r + \beta^r = S^r - rP = (\frac{r}{r})^r - r(-\frac{1}{r}) = \frac{q}{r} + 1 = \boxed{\frac{17}{r}}$$

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$$x^r - \Delta m + r = 0$$

$$S = \alpha + \beta = \Delta$$

$$P = \alpha \cdot \beta = r \rightarrow \beta = \frac{r}{\alpha}$$

$$\frac{r\alpha + \beta^r}{\Delta\beta^r} = \frac{1}{\Delta} \left(\frac{r\alpha}{\beta^r} + \beta^r \right) = \frac{1}{\Delta} \left(\frac{r\alpha}{(\frac{r}{\alpha})^r} + \beta^r \right) = \frac{1}{\Delta} (\alpha^r + \beta^r)$$

$$= \frac{1}{\Delta} (S^r - rSP) = \frac{1}{\Delta} (14^r - \frac{r \cdot \Delta \cdot r}{-r}) = \boxed{\frac{95}{\Delta} = 19}$$

1

$$y_1 = ax^r + bx + c$$

$$y_r = rx + b$$

$$\begin{aligned} \xrightarrow{n=1} y_1 &= y_r = rx + b = 14 \\ \xrightarrow{n=-1} y_1 &= y_r = r(-1) + b = 4 \end{aligned} \left. \vphantom{\begin{aligned} \xrightarrow{n=1} y_1 &= y_r = rx + b = 14 \\ \xrightarrow{n=-1} y_1 &= y_r = r(-1) + b = 4 \end{aligned}} \right\} \rightarrow \begin{matrix} (1, 14) & (-1, 4) & (0, \xi) \\ \text{نقطه} & \text{نقطه} & \text{نقطه} \end{matrix}$$

$$\xrightarrow{\text{حل}} x = \frac{-r+0}{r} = \frac{-r}{r} \rightarrow \text{نقطه} : \boxed{x = \frac{-r}{r}}$$

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$$y = rm^r + (m+1)m + m + 4 \left. \vphantom{y = rm^r + (m+1)m + m + 4} \right\} \xrightarrow{\text{حله}} rm^r + (m+1)m + m + 4 = 0 \rightarrow rm^r + mm + 4 + m = 0$$

$$y = 0 \rightarrow \text{حل} \Rightarrow \Delta = 0 \rightarrow m^r - 1m - 4 = 0 \rightarrow (m-1)(m+4) = 0$$

$$\rightarrow m = 1 \rightarrow y = rm^r + 14m + 14 \xrightarrow{\text{حله}} rm^r + 14m + 14 = 0 \rightarrow rm^r + 14m + 14 = 0$$

$$\Rightarrow m^r + 4m + 14 = 0 \rightarrow (m+1)^r = 0 \rightarrow m = -1 \left. \vphantom{m = -1} \right\} \rightarrow \text{نقطه} : \boxed{m = -1}$$

$$\rightarrow \boxed{m = -1} \rightarrow y = rm^r - 14m + 14 \xrightarrow{\text{حله}} rm^r - 14m + 14 = 0 \rightarrow rm^r - 14m + 14 = 0$$

$$\Rightarrow m^r - 14m + 14 = 0 \rightarrow (m-1)^r = 0 \rightarrow m = 1 \rightarrow \boxed{m = 1}$$

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