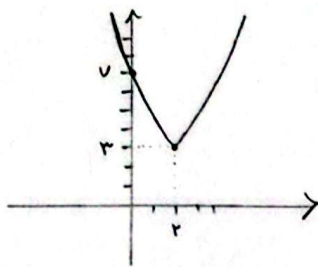
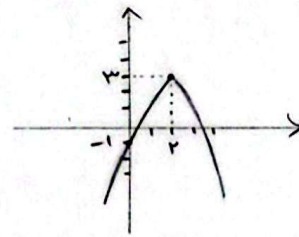


الف) $y = x^2 - 2x + 7$



$\min \left| \frac{-b}{2a} = \frac{-(-2)}{2} = 1 \right|$
 $(1)^2 - 2(1) + 7 = 6$

ب) $y = -x^2 + 4x - 1$



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

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

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

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ب) $\Delta = 0 \Rightarrow m^2 - 2m + 5 = 0 \Rightarrow (m-1)(m+3) = 0 \Rightarrow m = 1, m = -3$

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

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

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

الف) $\Delta > 0 \Rightarrow 4m^2 - 4m + 12 > 0 \Rightarrow m^2 - m + 3 > 0 \Rightarrow \frac{-1}{+ \phi - \phi +} \Rightarrow m \in (-1, 3)$

ب) $\Delta > 0 \Rightarrow 4m^2 - 4m + 12 > 0 \Rightarrow m^2 - m + 3 > 0 \Rightarrow \frac{-1}{+ \phi - \phi +} \Rightarrow m \in (-1, 3)$

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

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

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

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

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

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

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$$y = \frac{(x_m^2 - x_m - 1)(x_m^2 - x_m - 2)}{1 - x^2} = \frac{(x-1)(x+1)(x+1)(x-2)}{-(x-1)(x+1)}$$

$$\Rightarrow y = -(x+1)(x-2) = -x^2 + 1x + 2$$

$$\Rightarrow \text{man} = \frac{-\Delta}{2a} = \frac{-(149+14)}{(-4) \times 1} = \boxed{\frac{163}{4}}$$

9

$$mx^2 - (m+r)x - r = 0 \rightarrow S = \frac{m+r}{m}, P = \frac{-r}{m}$$

$$P(\frac{a+b}{s}) = \Delta(\frac{a+b}{p}) + v \rightarrow P(\frac{m+r}{m}) = \Delta(\frac{-r}{m}) + v \rightarrow \frac{m+r}{m} = \frac{-b+vm}{m}$$

$$\Rightarrow m+r = -b+vm \rightarrow m=14 \rightarrow m=14$$

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

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

9

$$x^2 - 2x + r = 0$$

$$S = \alpha + \beta = 2$$

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

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

$$= \frac{1}{\alpha} (S^r - rSP) = \frac{1}{\alpha} (14^r - \frac{r \cdot 2 \cdot r}{-r}) = \boxed{\frac{95}{\alpha} = 19}$$

9

$$y_1 = ax^2 + bx + c$$

$$y_2 = x^2 + b$$

$$\begin{matrix} n=1 \rightarrow y_1 = y_2 = 1 \times 1 + b = 1 \\ n=2 \rightarrow y_1 = y_2 = 1 \times (-1) + b = 1 \end{matrix} \rightarrow \begin{matrix} (1, 1) & (-1, 1) & (0, 1) \\ \text{نقطه} & \text{نقطه} & \text{نقطه} \end{matrix}$$

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

9

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

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

$$\rightarrow m = 1 \rightarrow y = x^2 + 1x + 1 \xrightarrow{\text{نقطه}} x^2 + 1x + 1 = 0 \rightarrow x^2 + 1x + 1 = 0$$

$$\Rightarrow x^2 + 4x + 9 = 0 \rightarrow (x+1)^2 = 0 \rightarrow x = -1 \rightarrow \text{نقطه} : \boxed{x = -1}$$

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$$\rightarrow \boxed{m = 1} \rightarrow y = x^2 + 1x + 1 \xrightarrow{\text{نقطه}} x^2 + 1x + 1 = 0 \rightarrow x^2 + 1x + 1 = 0$$

$$\Rightarrow x^2 + 1x + 1 = 0 \rightarrow (x-1)^2 = 0 \rightarrow x = 1 \rightarrow \boxed{m = 1}$$