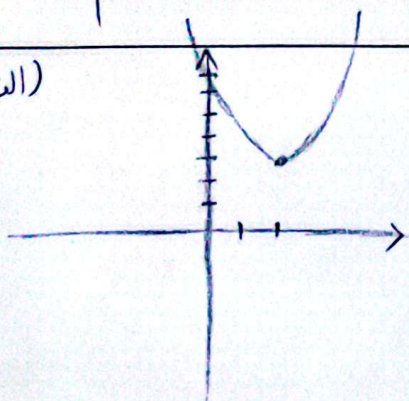
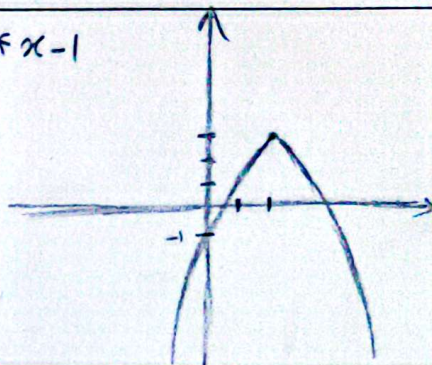


الف)



$$ب) y = -x^2 + 4x - 1$$



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

$$m^2 + 2m + 1 - \frac{1}{2}m - 2 > 0 \rightarrow m^2 + \frac{3}{2}m - 1 > 0$$

$$\rightarrow (m-1)(m+3) > 0 \rightarrow (-\infty, -3) \cup (1, +\infty)$$

ب) $\Delta = 0 \rightarrow m^2 + \frac{3}{2}m - 1 = 0$

$$\Rightarrow m = -3 \text{ یا } 1$$

ج) $\Delta < 0 \rightarrow m^2 - 2m - 1 < 0 \rightarrow (-3, 1)$

د) $m^2 - 2m - 1 > 0 \rightarrow (-\infty, -3] \cup [1, +\infty)$

الف) $\Delta > 0$

$$\begin{cases} p > 0 \\ S < 0 \end{cases} \rightarrow \frac{2(m+1)}{m-2} < 0 \Rightarrow (-1, 2)$$

$$f(m+1)^2 - f_0(m-2) > 0 \rightarrow 4m^2 + 16m + 4 - f_0 m + 16 > 0$$

$$\rightarrow 4m^2 - 22m + 20 > 0 \rightarrow \frac{4+22}{4} > m > \frac{4-22}{4}$$

$$\rightarrow \frac{C}{a} < 0 \rightarrow \frac{16}{m-2} < 0 \rightarrow m > 2$$

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

$$(-1, 2)$$

سی زانی از هر جابجایی نزدیک به دور بینی مختلف
الاست داشته باشد

$$\frac{C}{a} < 0 \rightarrow \frac{16}{m-2} < 0 \rightarrow m-2 < 0$$

$$\rightarrow m < 2$$

ب)

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

$$\rightarrow m+1 = 2m+4$$

$$3m = 3 \rightarrow m = 1$$

$$\Delta = 0$$

$$f \sin^2 \alpha - f(\frac{3}{4})(\frac{3}{4}) = 0$$

$$f \sin^2 \alpha - f = 0 \rightarrow \sin^2 \alpha = 1 \Rightarrow \sin \alpha = 1$$

$$y = \frac{(x^2 - 2x - 1)(x^2 - 2x - 4)}{1 - x^2} \rightarrow y = \frac{(x-1)(x+1)(x+1)(x-4)}{1-x^2}$$

$$= \frac{(x^2 - 1)(x^2 - 2x - 4)}{1 - x^2} \Rightarrow y = -4x^2 + 12x + 4 \rightarrow a = -4 < 0$$

$$x_s = \frac{-12}{-8} \rightarrow y_s = y_{\max} = \frac{-4}{8a} \Rightarrow \frac{-(144 + 120)}{-24} = \boxed{\frac{264}{24}}$$

$$mx^2 - (m+2)x - 2 = 0$$

$$2S = 2p + v$$

$$2x \cdot \frac{m+2}{m} = 2\left(\frac{2}{m}\right) + v \xrightarrow{x=m} 2m + 4 = -10 + vm \rightarrow 2m = 14 \rightarrow \boxed{m=7}$$

$$A = x_1^2 + x_2^2 = (x_1 + x_2)^2 - 2x_1x_2 \rightarrow x_1 + x_2 = \frac{-b}{a} = \frac{4}{7} = \frac{v}{f}$$

$$x_1x_2 = \frac{c}{a} = \frac{-2}{7} = \frac{-1}{f} \Rightarrow A = \frac{16}{49} - 2\left(\frac{-1}{7}\right) = \frac{16}{49} + 1 = \boxed{\frac{125}{49}}$$

$$\frac{f\alpha + \beta^2}{2\beta^2} \rightarrow \alpha + \beta = 4, \alpha\beta = 2$$

$$\frac{f\alpha + \beta^2}{2\beta^2} = \frac{19(2\beta - 10)}{2\beta^2} = \boxed{19}$$

$$\rightarrow \beta^2 = 2\beta^2 - 2\beta^2 = 19\beta - 10$$

$$f\alpha + \beta^2 = f(4 - \beta) + (19\beta - 10) = 19\beta - 10 \Rightarrow 2\beta^2 = 2(2\beta - 2) = 4\beta - 4$$

$$\rightarrow y_1 = ax^2 + bx + f$$

$$y_1 = x^2 + 3x + f \Rightarrow \frac{-b}{2a} = \boxed{\frac{-3}{2}}$$

$$\xrightarrow{2} 1f = fa + 2b + f$$

$$\xrightarrow{-3} f = 9a - 3b + f$$

$$\rightarrow \begin{cases} 9a - 3b = 0 \xrightarrow{x^2} 11a - 4b = 0 \\ fa + 2b = 10 \xrightarrow{x^3} 12a + 4b = 30 \end{cases}$$

$$\rightarrow 10a = 10 \rightarrow \boxed{a=1} \rightarrow b = 3$$

$$2x^2 + (m+1)x + m + 4 = x$$

$$2x^2 + mx + x + m - 4 = 0$$

$$\rightarrow 2x^2 + mx + m - 4 = 0 \xrightarrow{\Delta=0} m^2 - 16m - 16 = 0 \rightarrow (m-12)(m+4) = 0$$

$$\rightarrow \boxed{m=12, -4}$$