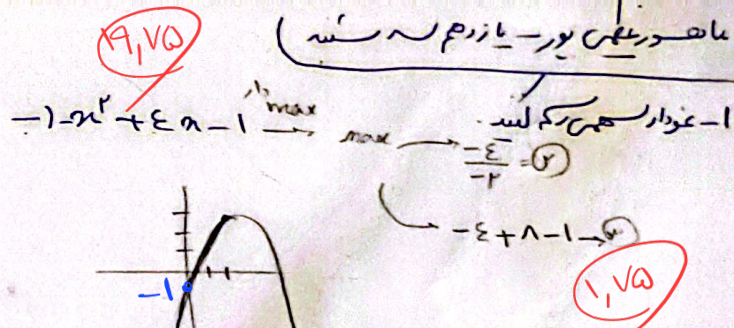
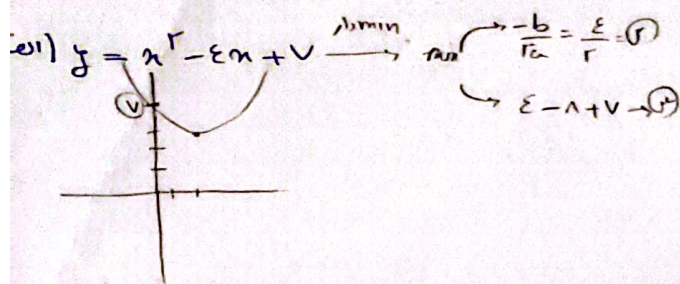




۲- معادله $2m^2 + (m+1)m + \frac{1}{2}m + 2 = 0$ در نقطه برخورد به محور m است.

($\Delta > 0$)

$m^2 + 2m + 1 - f(m+1) = m^2 + 2m + 1 - \varepsilon m - 1 > 0 \rightarrow m^2 - \varepsilon m > 0$
 $(-\infty, -1) \cup (2, +\infty)$

$\Delta = 0 \rightarrow m = [-1, 2]$

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

($\Delta > 0$) $\frac{-1}{+} \frac{2}{+} \rightarrow (-\infty, -1] \cup [2, +\infty)$

ج) معادله $x^2 - 2x + 1 = 0$ را بنویسید

د) معادله $x^2 - 2x + 1 = 0$ را بنویسید

۳- معادله $y = (m-2)x^2 - 2(m+1)x + 1$ را در نقطه برخورد به محور x بنویسید.

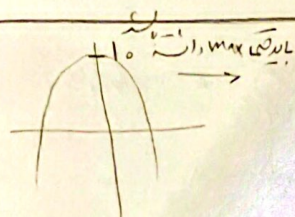
$\Delta > 0 \rightarrow \varepsilon m^2 + 4m + 1 - \varepsilon(10m - 10) \rightarrow$

$\varepsilon m^2 + 4m + 1 - \varepsilon 10m + 10 \rightarrow \varepsilon m^2 - 10\varepsilon m + 11 \rightarrow m^2 - 10m + 11 > 0$
 $S < 0 \rightarrow \frac{10m+1}{m-2} < 0 \rightarrow \frac{-1}{+} \frac{10}{-} \rightarrow (-1, 2)$

الف) معادله $x^2 - 2x + 1 = 0$ را بنویسید. $A \cap B \cap C \rightarrow \emptyset$
 ب) معادله $x^2 - 2x + 1 = 0$ را بنویسید. $A \cap B \cap C \rightarrow \emptyset$
 ج) معادله $x^2 - 2x + 1 = 0$ را بنویسید. $A \cap B \cap C \rightarrow \emptyset$

$\Delta > 0 \rightarrow$ جواب مثبت است $\checkmark$ $p < 0 \rightarrow \frac{10}{m-2} < 0 \rightarrow \frac{10}{-} \frac{2}{+} \rightarrow (m < 2)$

$S < 0 \rightarrow \frac{10m+1}{m-2} < 0 \rightarrow \frac{-1}{+} \frac{10}{-} \rightarrow (-1, 2) \Rightarrow A \cap B \cap C \rightarrow (-1, 2)$



$m-2 < 0 \rightarrow (m < 2)$ (A)

$\Delta > 0 \rightarrow$ جواب مثبت است $\checkmark$ (B)

$p < 0 \rightarrow \frac{10}{m-2} < 0 \rightarrow \frac{10}{-} \frac{2}{+} \rightarrow (m < 2) \rightarrow A \cap B \cap C \rightarrow (-\infty, 2)$

$\frac{-b}{2a} = -2 \rightarrow \frac{10m+1}{2(m-2)} = -2 \rightarrow 10m+1 = -4m+8 \rightarrow 14m = 7 \rightarrow m = \frac{1}{2}$

۴- معادله $y = (m-2)x^2 - 2(m+1)x + 1$ را در نقطه برخورد به محور x بنویسید.

الف) معادله $x^2 - 2x + 1 = 0$ را بنویسید. $\frac{1}{2}m^2 - (2\sin\alpha)m + \frac{1}{2} = 0$
 $x^2 - (2\sin\alpha)m + \frac{1}{2} = 0 \rightarrow 9\sin^2 - 4(\frac{9}{2}) > 0 \rightarrow 9\sin^2 - 18 > 0 \rightarrow \sin^2 = 1 \rightarrow \sin = \pm 1 \rightarrow$

$m^2 - 2m + \frac{1}{2} \rightarrow (m - \frac{1}{2})^2 \rightarrow m = \frac{1}{2}$

$$\frac{r_n^2 - r_{n-1}^2}{r_n - r_{n-1}} = \frac{(r_n - r_{n-1})(r_n + r_{n-1})}{r_n - r_{n-1}} = r_n + r_{n-1}$$

$$\max = -\frac{\Delta}{\epsilon a} = \frac{-(149 + 120)}{-26} = \frac{269}{26}$$

$$\frac{(r_{n+1})(r_n - a)(n+1)}{-(n+1)(n-1)} = -r_n^2 + 12n + 5$$

۷- اگر در معادله درجه دوم مجموع ریشه ها برابر ۱۲ باشد و حاصل ضرب ریشه ها ۵ باشد و ریشه ها صحیح و صحیح باشد

$$r_n^2 - (m+1)r_n - 2 = 0$$

$$r\left(\frac{m+1}{m}\right) = 5\left(\frac{-1}{m}\right) + 12 \rightarrow \frac{r(m+1)}{m} = \frac{12m-5}{m} \Rightarrow r(m+1) = 12m-5$$

$$\rightarrow \epsilon m^2 - 4m - 2 \rightarrow \alpha^2 + \beta^2 = 5^2 - 2\rho = \frac{9}{2} - \frac{2\left(\frac{-1}{2}\right)}{+1} = \frac{11}{2}$$

۸- اگر α و β ریشه های معادله $x^2 - 5x + 2 = 0$ باشد

$$B^2 = \frac{\epsilon \alpha + \beta^2}{2\beta^2}$$

$$B^2 = \frac{2\beta^2 - 10\beta^2}{2\beta^2} \rightarrow \frac{12\beta^2 - 10\beta^2}{2\beta^2} \rightarrow \frac{11\beta^2 - 4\beta^2 - 10\beta^2}{2\beta^2} \rightarrow \frac{10\beta^2 - 4\beta^2 - 10\beta^2}{2\beta^2} = \frac{-4\beta^2}{2\beta^2} = -2$$

$$\frac{9\alpha\left(\frac{2}{5}\right)}{2\left(\frac{2}{5}\right)} = \frac{19}{2}$$

$$\frac{20 - 4\beta + 5\sqrt{9\beta} - 11}{2\beta^2 - 10} = \frac{5\sqrt{9\beta} - 19}{2\beta^2 - 10}$$

۹- غلط است

$$y = r_n + 10$$

$$c = 8 \quad an^2 + bn + 8 = r_n + 10 \rightarrow an^2 + (b-1)n - 2 = 0 \rightarrow \epsilon a + 12b - \epsilon - 4 = 0$$

$$\epsilon a + 12b = 10 \rightarrow 2a + b = 5$$

$$\rightarrow 9a - 12b + 4 - 4 = 0 \rightarrow 3a - b = 0 \rightarrow \begin{cases} 2a = 5 \rightarrow a = 2.5 \\ b = 3 \end{cases}$$

$$\frac{-b}{2a} = \frac{-3}{5} = -0.6$$

۱۰- اگر m عدد صحیح باشد

$$r_n^2 + (m+1)r_n + m + 4 = 0$$

$$r_n^2 + (m+1)r_n + m + 4 = 0 \rightarrow r_n^2 + mr_n + r_n + m + 4 = 0 \rightarrow m^2 - 12m - 12 = 0$$

$$(m-12)(m+4) = 0 \rightarrow m = 12 \text{ or } m = -4$$