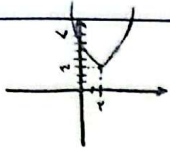
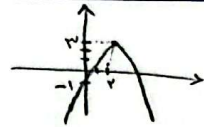


بنیاس نوروزی - یازدهم پسر B - تکلیف (۱۳)

الف) $x_0 = \frac{-b}{2a} = 2$
 $y_0 = 4 - 1 + 1 = 4$
 $a > 0$



ب) $x_0 = 0$
 $y_0 = -4 + 1 - 1 = -4$
 $a < 0$



(1)

الف) $\Delta > 0 \rightarrow (m+1)^2 - 4m - 14 = m^2 + 2m + 1 - 4m - 14 = m^2 - 2m - 13 > 0 \rightarrow (m-5)(m+3) > 0 \rightarrow m \in (-\infty, -3) \cup (5, +\infty)$
 ب) $\Delta = 0 \rightarrow m = \{-3, 5\}$ | ج) $\Delta < 0 \rightarrow m \in (-3, 5)$ | د) $\Delta \geq 0 \rightarrow m \in (-\infty, -3] \cup [5, +\infty)$

الف) $\Delta > 0 \rightarrow (2m+2)^2 - 1 \cdot (m-2) = 4m^2 + 8m + 4 - m + 2 = 4m^2 + 7m + 6 > 0 \rightarrow \Delta < 0 \rightarrow$ این عبارت همواره مثبت است
 $S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{\frac{1}{m-2}} < 0 \rightarrow \frac{1}{m-2} > 0 \rightarrow m > 2$ (I)
 $P > 0 \rightarrow \frac{1}{m-2} > 0 \rightarrow m > 2$ (II)
 ب) $S < 0 \rightarrow \frac{2m+2}{m-2} < 0 \rightarrow \frac{-1}{\frac{1}{m-2}} < 0 \rightarrow \frac{1}{m-2} > 0 \rightarrow m > 2$
 $P < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow m < 2$
 $\frac{1}{m-2} < 0 \rightarrow m < 2$
 $\rightarrow m \in (-1, 2)$

(۳)

الف) $P < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow \frac{1}{m-2} < 0 \rightarrow m < 2$
 ب) $\frac{-b}{2a} = \frac{2(m+1)}{2(m-2)} = -2 \rightarrow m+1 = -2m+4 \rightarrow 3m = 3 \rightarrow m = 1$

(۴)

$\Delta = 0 \rightarrow 4 \sin^2 \alpha - 4 = 0 \rightarrow \sin^2 \alpha = 1 \rightarrow \sin \alpha = \pm 1 \rightarrow K\pi + \frac{\pi}{2}$
 $S > 0 \rightarrow \frac{2 \sin \alpha}{1} > 0 \rightarrow \sin \alpha = (2K\pi, 2K\pi + \pi)$
 $P > 0 \rightarrow \frac{1}{\sin \alpha} > 0$
 $\Rightarrow \sin \alpha = 1$
 $\Rightarrow \frac{2}{1} x^2 - 2x + \frac{1}{1} = 0$
 $\Rightarrow x = \frac{1}{2}$

(۵)

تقریباً $\left\{ \begin{array}{l} x^2 - 2x - 3 \\ (x-3)(x+1) \end{array} \right\} \frac{1}{3} = \left(\frac{-1}{3} \right) \left| \frac{x^2 - 2x - 1}{(x-3)(x+1)} \right| \frac{1}{3} \rightarrow y = \frac{1 \cdot 3 \cdot 1 \cdot (x-1)(x+1)(x-3)(x+1)}{(x-1)(1 \cdot 3)} = (x^2 + \frac{1-13}{3}x - \frac{3}{3})$
 $= -6x^2 + 13x + 5 \rightarrow \text{Max}_{x, \text{be}} = \frac{-\Delta}{2a} = \frac{-13^2 - 4 \cdot (-6) \cdot 5}{-12} = \frac{169 - 120}{-12} = \frac{49}{-12} \approx -4.08$

(۶)

$3S = \Delta P + V \rightarrow \frac{3(m+2)}{m} = \frac{-2}{m} + V \rightarrow \frac{3m+6}{m} = V \rightarrow 3m+6 = Vm \rightarrow 3m = 14 \rightarrow m = \frac{14}{3}$
 $\rightarrow 4x^2 - 6x - 2 = 0 \rightarrow P = \frac{-1}{2}, S = \frac{1}{2}$
 $2x^2 - 3x - 1 = 0 \rightarrow P = \frac{1}{2}, S = \frac{1}{2}$
 $\alpha + \beta = S - 2P = \frac{1}{2} - 1 = -\frac{1}{2}$

(۷)

$P = \alpha \beta = 2 \rightarrow \beta = \frac{2}{\alpha} \rightarrow \frac{\frac{2}{\alpha}}{\frac{2}{\alpha \beta}} + \frac{P}{\Delta} = \frac{2 + P}{\Delta} = \frac{S - 2P}{\Delta} = \frac{13 - 4}{\Delta} = \frac{9}{\Delta} = (19)$

(۸)

$x^2 = 4x + 4 \Rightarrow x^2 - 4x - 4 = 0$
 $x = 2 \pm 2\sqrt{2}$

$$\begin{aligned} 4a + 2b + c &= 14 \\ 9a - 3b + c &= 4 \end{aligned}$$

$$\begin{aligned} C=4 &\Rightarrow 2a+b=5 \\ \Delta a=0 &\rightarrow \boxed{a=1} \\ 1a-3b=0 &\rightarrow 2a=b \quad \boxed{b=2} \end{aligned}$$

(9)

$$\rightarrow y = x^2 + 2x + 4 \leadsto \frac{-b}{2a} = \left(\frac{-2}{2} \right) \leftarrow \text{مختار}$$

$$2x^2 + (m+1)x + m+6 = 2x \rightarrow 2x^2 + mx + m+6 = 0 \xrightarrow{\Delta=0} m^2 - 11m - 41 = 0$$

$$(m-12)(m+4)$$

(10)

$$\rightarrow m = 12, -4 \rightarrow \text{نمسا؛ خاصه اول} \rightarrow 2x^2 + 12x + 18 = 0 \rightarrow x = -3$$

$$\begin{aligned} x^2 + 6x + 9 \\ (x+3)^2 \end{aligned}$$

$$\Rightarrow \boxed{m = -4}$$

کسر با کسر صحیح کدام