

Po *مباحثه اولی - درجه دوم*

$$x^2 + ax + a^2 - k \Rightarrow \sqrt{a^2 - 4k} \quad (r)$$

$$k + b = 1 \Rightarrow b = 1 - k \Rightarrow 1 \pm \frac{x^2 + a}{2x + 1} \Rightarrow \frac{k + a}{2} \leq 1 \Rightarrow a \leq 1 \quad (r)$$

$$\Rightarrow f(x) = \frac{x^2 + 1}{2x + 1} \Rightarrow f(1) = \frac{1 + 1}{2 + 1} = \frac{2}{3} \quad (r)$$

$$\begin{cases} x - a + b = 0 \\ cx + fa + b = 0 \end{cases} \Rightarrow \begin{cases} x = a - b \\ c(a - b) + fa + b = 0 \end{cases} \Rightarrow \begin{cases} a = 1 \\ b = -1 \end{cases} \quad (r)$$

$$\Rightarrow f(x) = \frac{kx + 1}{2x^2 - 4x - 1} \Rightarrow f(1) = \frac{d}{2 - 4 - 1} = \frac{-d}{-1} \quad (r)$$

$$-kx^2 + a + bx = -f(x+1) = -f(x^2 - 2x + 1) = -kx^2 - 1 - k \Rightarrow a = -1, b = -k \Rightarrow a + b = -1 - k \quad (r)$$

$$\left. \begin{aligned} &\rightarrow a^2 + ma + 1 = (a-1)^2 \Rightarrow a^2 - 2a + 1 = a^2 - 2a + 1 \Rightarrow m = -2 \\ &\rightarrow b < 0 \Rightarrow m^2 - k < 0 \Rightarrow m^2 < k \Rightarrow -2 < m < 2 \end{aligned} \right\} \Rightarrow -2 \leq m < 2 \quad (r)$$

$$x^2 \neq 0 \Rightarrow x \neq 0 \quad (r)$$

$$k - \frac{1}{x^2} \geq 0 \Rightarrow \frac{1}{x^2} \leq k \Rightarrow 1 \leq kx^2 \Rightarrow x^2 \geq \frac{1}{k} \Rightarrow x \geq \frac{1}{\sqrt{k}} \Rightarrow x \leq -\frac{1}{\sqrt{k}} \quad (r)$$

$$\Rightarrow D = \mathbb{R} - \left(-\frac{1}{\sqrt{k}}, \frac{1}{\sqrt{k}}\right) \quad (r)$$

$$D \subseteq \mathbb{R} \Rightarrow mx^2 + (m+1)x + 1 \geq 0 \Rightarrow m \geq 0 \quad (r)$$

$$\Rightarrow \Delta \leq 0 \Rightarrow f(m) - f(m) \leq 0 \Rightarrow \begin{array}{cc} 0 & 1 \\ \hline 0 & -1 \\ \hline 0 & 0 \end{array} \Rightarrow m \in [0, 1] \quad (r)$$

$$r \neq r_0 \wedge k \neq 0 \Rightarrow k \neq 0 \checkmark$$

$$r \neq 1 \neq 0 \Rightarrow a \neq r \Rightarrow a \neq 1 \checkmark$$

$$\left. \begin{array}{l} \\ \\ \end{array} \right\} \Rightarrow a \neq k \neq r \checkmark$$

(r) 11/12

$$\frac{x=1}{r+r} \frac{a-r}{r+r} \neq r \neq b \neq 1 \neq r \neq b \neq b \neq r \checkmark$$

$$\Rightarrow r \left(\frac{-r}{a} \right) - r \neq r \left(\frac{-r}{a} \right) a \neq r \Rightarrow -r \neq -ra \neq r \Rightarrow a \neq r \checkmark$$

(r) 19/10
a-b = \sqrt{a} \checkmark

$$r \neq ra \neq ra \Rightarrow r(a-ra-r) \neq 0 \Rightarrow \left. \begin{array}{l} a \neq 1 \\ \Rightarrow a \neq r \end{array} \right\} \checkmark$$

(r) 11/10/13