

نام و نام خانوادگی ترم پاسخنامه تشریحی تکلیف شماره ۱۲... کلاس A

$g = x^2 - 4x + 7 \rightarrow C = 7, A > 0$
 $\Delta = b^2 - 4ac \rightarrow 16 - 28 = -12 < 0$ (شماره)
 $x_s = -\frac{b}{2a} = \frac{4}{2} = 2$
 $y(2, 3)$
 $y = -x^2 + 4x - 1$

$C = -1, A < 0$
 $\Delta = 16 - 4 = 12 \rightarrow \frac{-b \pm \sqrt{\Delta}}{2a} = \frac{-4 \pm 2\sqrt{3}}{-2} \rightarrow \frac{2 \pm \sqrt{3}}{1}$
 $x_s = -\frac{b}{2a} = \frac{4}{-2} = -2 \rightarrow (2, 3)$

$2x^2 + (m+1)x + \frac{1}{m}m + 2 = 0 \rightarrow a = 2, b = m+1, c = \frac{1}{m}m + 2$
 $\Delta = b^2 - 4ac \rightarrow (m+1)^2 - 4(2)(\frac{1}{m}m + 2)$
 $\Delta = m^2 - 2m - 15$
 $\Delta > 0 \rightarrow m^2 - 2m - 15 > 0 \rightarrow m = \frac{2 \pm \sqrt{4 + 60}}{2} = \frac{2 \pm 8}{2} \rightarrow m = 5 \text{ or } m = -3$
 $\Delta = 0 \rightarrow m^2 - 2m - 15 = 0 \rightarrow m = -3, 5 \rightarrow x = \frac{-(m+1)}{2a}$
 $\Delta < 0 \rightarrow m^2 - 2m - 15 < 0 \rightarrow -3 < m < 5$ (ج)

$(m-2)x^2 - 2(m+1)x + 10 = 0 \rightarrow a = m-2, b = -2(m+1), c = 10$
 $\Delta = 4(m^2 - 1m + 11)$
 $\Delta > 0 \rightarrow \frac{c}{a} > 0 \rightarrow \frac{10}{m-2} > 0 \rightarrow m > 2$
 $-\frac{b}{a} = \frac{2(m+1)}{m-2} < 0$
 $\frac{1}{m-2} < 0 \rightarrow m < 2 \rightarrow |r_1| > r_2 \rightarrow -r_1 > r_2 \rightarrow r_1 + r_2 < 0 \rightarrow -\frac{b}{a} = \frac{2(m+1)}{m-2} < 0 \rightarrow -1 < m < 2$

$(m-2)x^2 - 2(m+1)x + 10 = 0 \rightarrow a = m-2, b = -2(m+1), c = 10$
 $\Delta = 4(m^2 - 1m + 11)$
 $x_1, x_2 = \frac{c}{a} = \frac{10}{m-2} < 0 \rightarrow m < 2$
 $\Delta > 0$
 $x_1 + x_2 = -\frac{b}{2a} = \frac{2(m+1)}{2(m-2)} = \frac{m+1}{m-2} = -2 \rightarrow m+1 = -2m+4 \rightarrow 3m = 3 \rightarrow m = 1$

$\frac{2x^2}{3} - (r \sin \alpha)x + \frac{r}{3} = 0 \rightarrow a = \frac{2}{3}, b = -r \sin \alpha, c = \frac{r}{3}$
 $\Delta = (r \sin \alpha)^2 - 4(\frac{2}{3})(\frac{r}{3})$
 $\Delta = r^2(\sin^2 \alpha - \frac{4}{3})$
 $\Delta \geq 0 \rightarrow \sin^2 \alpha - \frac{4}{3} \geq 0 \rightarrow \sin^2 \alpha \geq \frac{4}{3}$
 $\sin \alpha = 1 \text{ or } -1$
 $\text{If } \sin \alpha = 1 \rightarrow \frac{r}{3} (1 \pm 0) \rightarrow x = \frac{r}{3}$
 $\text{If } \sin \alpha = -1 \rightarrow \frac{r}{3} (-1 \pm 0) \rightarrow x = -\frac{r}{3}$

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

$$1 - 2x \rightarrow x \neq \pm 1 \rightarrow (1-x)/(1+x) = -(x-1)/(x+1)$$

$$\rightarrow \frac{(2x^2 - 2x - 1)(2x^2 - 2x - a)}{(x-1)(x+1)} \rightarrow x=1 \rightarrow \text{مخرج صفر} \rightarrow -(2x-a)(2x+1)$$

$$x=-1 \rightarrow \text{مخرج صفر} \rightarrow$$

$$F(x) = \frac{fac - b^2}{fa} = \frac{219}{24}$$

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

$$b = -(m+2)$$

$$c = -2$$

$$S = \frac{m+2}{m} = 1 + \frac{2}{m}, \quad p = \frac{-2}{m} = -\frac{2}{m} \xrightarrow{ps = ap + v} \psi(1 + \frac{2}{m}) = \omega(-\frac{2}{m}) + v \rightarrow \frac{19}{m} = k \rightarrow m = \frac{19}{k}$$

$$\rightarrow S = 1 + \frac{2}{k} = \frac{k}{k} + \frac{2}{k} = \frac{k+2}{k}, \quad p = -\frac{2}{k} = -\frac{1}{k} \rightarrow (\frac{k}{k})^2 - 2(-\frac{1}{k}) = \frac{9}{k} + 1 = \frac{19}{k}$$

$$2x^2 - a x + 2 = 0 \rightarrow 4 + \beta = a \rightarrow a = \beta + 4$$

$$\alpha \cdot \beta = 2 \rightarrow \beta = \frac{2}{\alpha}$$

$$\frac{f\alpha + \beta a}{\alpha \beta^2} = \frac{f(\beta + 4) + \beta a}{\alpha \beta^2} = \frac{20 - f\beta + \beta a}{\alpha \beta^2} \rightarrow \frac{\beta a - f\beta + 20}{\alpha \beta^2} \rightarrow \beta^2 - \alpha \beta + 20 = 0 \rightarrow \beta^2 = \alpha \beta - 20$$

$$\beta a = \beta \cdot \beta^2 = \beta(10\alpha\beta - 4\gamma) = 10\alpha\beta^2 - 4\gamma\beta = 10\alpha(\alpha\beta - 2) - 4\gamma\beta = 10\alpha^2\beta - 20\alpha - 4\gamma\beta = 10\alpha^2\beta - 20\alpha - 4\gamma\beta$$

$$\beta a - f\beta + 20 = (10\alpha^2\beta - 20\alpha - 4\gamma\beta) - f\beta + 20 = 10\alpha^2\beta - 19\alpha - 4\gamma\beta$$

$$\beta^2 = \alpha\beta - 2 \rightarrow \frac{\alpha\beta - 2}{\beta^2} = 19 \times \frac{\alpha\beta - 2}{\beta^2} \rightarrow 19$$

$$y = ax^2 + bx + c \xrightarrow{\text{مشتق}} \begin{cases} fa + 2b + c = 16 \\ 9a - 4b + c = 1 \\ 16a + 6b + c = 0 \end{cases} \rightarrow \begin{cases} -12a - 2b = 15 \\ -9a - 4b = 1 \end{cases} \rightarrow \begin{cases} 5a + b = -15 \\ a + b = -\frac{1}{3} \end{cases} \rightarrow \begin{cases} a = -\frac{1}{3} \\ b = \frac{4}{3} \end{cases}$$

$$y = 2x^2 + 10 \rightarrow (2, 14), (-2, 14), (0, 10) \rightarrow a = 1, b = 2$$

$$\rightarrow \text{مشتق} : -\frac{b}{fa} = x = -\frac{\frac{4}{3}}{2(-\frac{1}{3})} = \frac{2}{1} = 2$$

$$2x^2 + (m+1)x + m + 2 \rightarrow x > 0, y > 0 \rightarrow y = x$$

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

$$\Rightarrow \frac{\sqrt{49} \pm 1}{2} = \frac{14 \pm 1}{2} = \begin{cases} m = -1 \checkmark \\ m = 15 \times \end{cases} \Rightarrow m = 15 \checkmark$$