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

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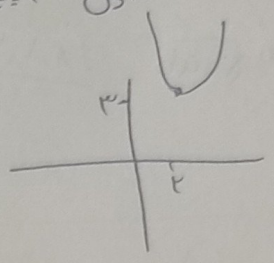
الف)

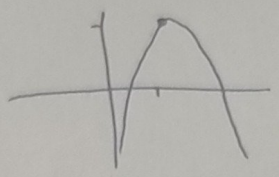
$x_S = \frac{6}{2} = 3 \quad y_S = -3$



ب)

$x_S = \frac{4}{-2} = -2 \quad y_S = 3$

$x = \frac{-4 \pm \sqrt{12}}{-2} = 2 \pm \sqrt{3}$



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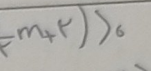
الف) $\Delta > 0 \quad (m+1)^2 - 8(\frac{1}{4}m+2) > 0$

$m^2 - 2m - 15 > 0 \quad (m-5)(m+3) > 0$



$m < -3 \cup m > 5$

ب) $\Delta = 0 \quad (m+1)^2 - 8(\frac{1}{4}m+2) = 0 \quad m^2 - 2m - 15 = 0$

$(m-5)(m+3) = 0 \quad \begin{cases} m=5 \\ m=-3 \end{cases}$

ج) $\Delta < 0 \quad (m+1)^2 - 8(\frac{1}{4}m+2) < 0$

$m^2 - 2m - 15 < 0 \quad (m-5)(m+3) < 0$

$(-3, 5)$

د) $\Delta \geq 0 \quad (m+1)^2 - 8(\frac{1}{4}m+2) \geq 0 \quad m^2 - 2m - 15 \geq 0$

$(m-5)(m+3) \geq 0 \quad (-\infty, -3] \cup [5, +\infty)$

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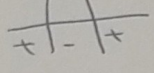
الف) $\Delta > 0 \quad (2m+2)^2 - 4(m-2) > 0 \quad m^2 - 8m + 21 > 0$

$P > 0 \quad \frac{10}{m-2} > 0 \quad m-2 > 0 \quad m > 2$ ①

$S > 0 \quad \frac{2m+2}{m-2} > 0$



$(-1, 2)$ ②

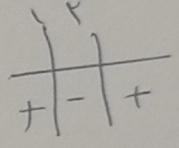
$\Delta > 0 \quad m^2 - 8m + 21 > 0$

① ∩ ② = $(1, 2)$

ب) $\Delta > 0 \quad (2m+2)^2 - 4(m-2) > 0 \quad m^2 - 8m + 21 > 0$

$P > 0 \quad \frac{10}{m-2} > 0 \quad m-2 > 0 \quad m > 2$ ①

$S < 0 \quad \frac{2m+2}{m-2} < 0$



$(-1, 2)$ ②

① ∩ ② = ∅

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الف) $m \neq -1 \quad 2m \neq -2 \quad -2(m+1) \neq 0$

$\Delta > 0 \quad (-2(m+1))^2 - 4(m-2) > 0$

$4m^2 + 8m + 4 - 4m + 8 > 0 \quad 4m^2 + 4m + 12 > 0$

$m^2 + m + 3 > 0$ همواره برقرار

$\frac{c}{a} < 0 \quad m < 2 \quad m \neq 2$

ب) $-\frac{b}{2a} = -2 \quad \frac{2m+2}{2m-4} = -2$

$2m + 2 = -4m + 8 \quad 6m = 6 \quad m = 1$

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$4x^2 - (12\sin\alpha)x + 9 = 0 \quad \Delta \geq 0 \quad 144\sin^2\alpha - 144 \geq 0 \quad \sin^2\alpha \geq 1$

$\sin\alpha = \pm 1$

$\sin\alpha = 1 \longrightarrow 4x^2 - 12x + 9 = 0 \quad x = \frac{12}{8} = \frac{3}{2}$

$\sin\alpha = -1 \longrightarrow 4x^2 + 12x + 9 = 0 \quad x = \frac{-12}{8} = -\frac{3}{2}$

$\frac{(x-1)(3x+1)(x+1)(2x-3)}{(1-x)(1+x)} = \frac{(3x+1)(2x-3)}{-1} = -6x^2+7x+3$

$x_{max} = \frac{-b}{2a} = \frac{-7}{-12} = \frac{7}{12}$ $\quad y_{max} = \frac{289}{24}$ ۶

$3\left(\frac{m+2}{m}\right) = 2\left(\frac{2}{m}\right)+7$ $\quad \frac{3m+6}{m} = \frac{-10+7m}{m}$ $\quad 3m+6 = -10+7m$ $\quad 4m=16$ $\quad m=4$

$4x^2-4x-2=0 \rightarrow 2x^2-2x-1=0$ $\quad S=\frac{2}{2}$ $\quad P=\frac{-1}{2}$ ۷

$(x_1+x_2)^2 = x_1^2+x_2^2+2x_1x_2$ $\quad x_1^2+x_2^2 = \frac{14}{4}$

$\frac{a}{2}$ $\quad -1$

$c=4$ $\quad y_2 = 2x+10 \rightarrow 2(2)+10=14$ $\quad (2,14)$ $\quad 2(-3)+10=4$ $\quad (-3,4)$ } تقاطعی با این خصلت صدق میکند

$y_1 = x^2+3x+4$ ۹

$\begin{cases} a(2)^2+b(2)+4=14 \\ a(-3)^2+b(-3)+4=4 \end{cases}$ $\quad 4a+2b=10 \xrightarrow{\times 3} 12a+6b=30$ $\quad 3a=30$ $\quad a=1$

$9a-3b=0 \xrightarrow{\times 2} 18a-6b=0$ $\quad b=3$

$x_s = \frac{b}{2a} = \frac{-3}{2}$

$y=x$ $\quad 4x^2+2mx+m+4=0$ $\quad \Delta=0$ $\quad m^2-8(m+4)=m^2-8m-32=0 \begin{cases} m=4 \\ m=-4 \end{cases}$

$m=4 \rightarrow x^2+4x+9=0 \begin{cases} x=-2 \\ y=-2 \end{cases}$ ✗ $\quad m=-4 \rightarrow x^2-2x+1 \rightarrow x=1$ $\quad y=1$ ✓