(آمادگی برای کنکور) (یازدهم فیزیک A)

Year Month Date ( )

subject

① $\frac{-\Delta}{4a} = \frac{-b^2+4ac}{4a} \rightarrow \frac{-b^2-12}{-4} = 7$

$-b^2-12 = -28 \quad -b^2 = -16 \quad b^2 = 16 \quad b = \pm 4$

② الف) $f(x) = x^4 + \frac{2x^2}{4} + 3 \rightarrow t^2 + \frac{1}{2}t + 3 = 0$ دلتا کمتر صفر پس ریشه ندارد

ب) $f(x) = \frac{(4-x^2)^2}{4} - 2(4-x^2) - 15 \xrightarrow{t}$

$t^2 - 2t - 15 = 0 \quad (t-5)(t+3) = 0$

$\hookrightarrow 5 \quad \hookrightarrow -3$

$4 - x^2 = 5 \quad 4 - x^2 = -3 \rightarrow x^2 = 7 \quad x = \pm\sqrt{7}$

$x^2 = -1$ غ ق ق

③ $\beta = \alpha + 2$

$\div 4 \leftarrow 4x^2 - 16x + m = 0 \quad \alpha + 1 = 2 \rightarrow \alpha = 1 \quad \beta = 3$

$x^2 - 4x + \frac{m}{4} = 0 \quad \alpha\beta = \frac{m}{4} \rightarrow 3 = \frac{m}{4} \rightarrow m = 12$

④ $3x^2 - 4x + m - 1 = 0 \quad 2\alpha - \beta = 4 \rightarrow \beta = 2\alpha - 4$

$\alpha + \beta = \alpha + 2\alpha - 4 \rightarrow 3\alpha - 4 = \frac{4}{3} \quad 3\alpha - 4 = 2$

$\alpha\beta = 2 \times 0 = \frac{m-1}{3} = 0 \quad m-1 = 0 \leftarrow \alpha = 2 \quad \beta = 0$

$\hookrightarrow m = 1$

⑤ $\alpha = \frac{1}{\beta} \quad \beta \times \frac{1}{\beta} = 1 \quad \frac{m^2-2}{-m} = +1 \quad m^2 - 2 = -m$

$m^2 - 2 + m = 0$

$\hookrightarrow (m+2)(m-1) = 0$

$m = 1 \quad -x^2 + 4x - 1 = 0 \quad \Delta > 0$ ق ق

$m = -2 \quad 2x^2 + 4x + 2 = 0 \quad \Delta = 0$ غ ق ق

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آلاء بنی نزار

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۹) $\alpha\beta^2 = 4 \quad (\alpha\beta)(\beta) = 4 \rightarrow \beta^3 = 4 \quad \beta = \sqrt[3]{4}$

$\alpha + \beta = \frac{9}{4} + \frac{4}{\sqrt[3]{4}} = \frac{27+16}{12} = \frac{43}{12} \quad \frac{-b}{a} = \frac{43}{12} \quad \alpha = \frac{9}{4}$

۷) $x^2 + m - 4x = 0 \rightarrow \alpha = 2\beta \quad \alpha + \beta = 4\beta = 4 \rightarrow \beta = 1 \quad \alpha = 2$

$\alpha\beta = 2 \rightarrow \frac{c}{a} = \frac{m}{1} \rightarrow m = 2$

۸) $x^2 - 7x + 2 = 0 \xrightarrow{\div \alpha} \alpha^2 - 7\alpha + 2 = 0$

$\alpha^2 + \frac{8}{\alpha^2} = \underbrace{\left(\alpha + \frac{2}{\alpha}\right)^2} - 6\left(\alpha + \frac{2}{\alpha}\right)$

$\frac{\alpha^2 + 2}{\alpha} + 2\left(\alpha + \frac{2}{\alpha}\right)$

$\frac{7\alpha}{\alpha} = 7 \qquad 7^2 - 6(7)^2 = 343 - 294 = 49$

۹) $y = \frac{-\Delta}{4a} = \frac{-b^2 + 4ac}{4a} = \frac{+2500}{+400} = 6.25$

$\rightarrow -10t^2 + 50t \xrightarrow{\text{تقسیم}} t(+50 - 10t) = 0 \quad \begin{cases} t = 0 \\ t = 5 \end{cases}$

۱۰) الف) $(x-1)^2 = 2x + 1$

$x^2 + 2x = |x+2| \quad \leftarrow$

$\hookrightarrow x = -2 \text{ یا } 1$

$\begin{vmatrix} 0 \\ 1 \end{vmatrix} \quad \begin{vmatrix} 2 \\ 3 \end{vmatrix} \quad \begin{vmatrix} 2 \\ 3 \end{vmatrix}$

۲ جواب

Min $\begin{vmatrix} -1 \\ -1 \end{vmatrix}$

۲ جواب !؟