رگتا یمینی

مقطع: یازدهم دختر A

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①

$y = -x^2 + bx + 3$ $\quad \frac{-\Delta}{4a} = 7 \rightarrow \frac{-\Delta}{-4} = 7 \rightarrow \Delta = 28 \Rightarrow b^2 + 12 \rightarrow b = \pm 4$

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②

الف) $f(x) = x^4 + 2x^2 + 3$

$x^2 = t \rightarrow t^2 + 2t + 3 = 0 \quad \Delta < 0$

جواب ندارد

ب) $(4-x^2)^2 - 2(4-x^2) - 15 =$

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

$4 - x^2 = 5 \rightarrow x^2 = -1$ ✗

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

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③

$4x^2 - 16x + m = 0$ $\quad \frac{\sqrt{\Delta}}{|a|} = 2 \rightarrow \frac{\sqrt{256 - 16m}}{4} = 2 \rightarrow 256 - 16m = 64$ $\quad \boxed{m = 12}$

$4x^2 - 16x + 12 = 0 \xrightarrow{\div 4} x^2 - 4x + 3 \rightarrow (x-1)(x-3)$ → ① , ③

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④

$3x^2 - 6x + m - 1 = 0$ $\quad 2\alpha - \beta = 4$

$P = 0 \rightarrow \boxed{m = 1}$ $\quad 2\alpha + 2\beta - 3\beta = 4 \rightarrow 2\overbrace{(\alpha + \beta)}^{4} - 3\beta = 4$ $\quad \boxed{\alpha = 2}\ \boxed{\beta = 0}$

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⑤

$-mx^2 + 4x + m^2 - 2 = 0$ $\quad \frac{c}{a} = 1 \rightarrow \frac{m^2 - 2}{-m} = 1 \rightarrow m^2 - 2 = -m \rightarrow m^2 + m - 2 = 0$ → ① ✓ , -2 ✗

اگر $m = -2$ باشد Δ منفی می‌شود.

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⑥

$x^2 - mx + 3 = 0$ $\quad \alpha\beta^2 = 4 \rightarrow \overset{3}{\cancel{\alpha\beta}}\beta = 4 \rightarrow \beta = \frac{4}{3} \quad \alpha = \frac{9}{4}$

$m = \frac{4}{3}_{\times 4} + \frac{9}{4} = \frac{16 + 27}{12} \Rightarrow \boxed{m = \frac{43}{12}}$

(۷)

$x^2 - 4x + m = $ $\alpha , \frac{3\alpha}{2}$ $P = 3$

$4\alpha = 4 \to \alpha = 1$ $m = 3$

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(۸)

$x^2 - 7x + 2 = 0$ $\frac{8}{\alpha^3} + \alpha^3$

$(\alpha + \frac{2}{\alpha})$ مربع $(\alpha^2 + \frac{4}{\alpha^2} + 4)$ است

$\frac{8}{\alpha^3} + \alpha^3 = (\alpha + \frac{2}{\alpha})(\alpha^2 + \frac{4}{\alpha^2} - 2) = 301$

$\frac{\alpha^2 + 2}{\alpha}$ $49 \quad \alpha^2 + \frac{4}{\alpha^2} + 4 - 6$ 43

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(۹)

$h(t) = -10t^2 + 50t$ $\frac{-50}{-20} \to 2/5$

زمان رسیدن به زمین: $-10t^2 + 50t = 0 \to t = 0$, $\to t = 5$

$t = 0$ ← کلمه قبول نیست

$-10 \times 6/25 + 50 \times 2/5 = 62/5 \to$ ارتفاع

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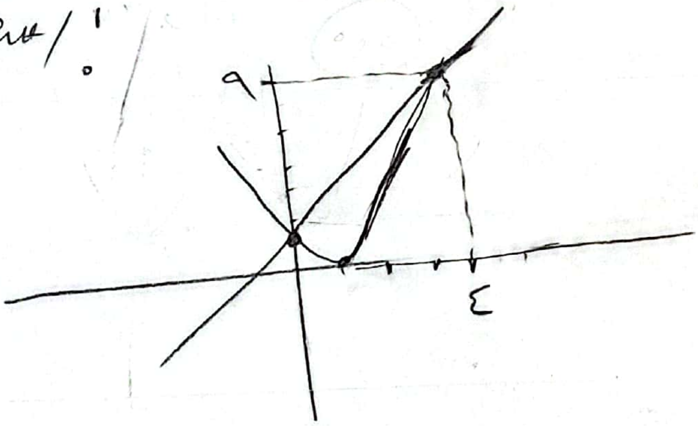
(۱۰)

الف) $(x-1)^2 = 2x + 1$

$x^2 + 1 - 2x = 2x + 1$

$\frac{0}{1} \quad \frac{4}{9}$



ب) $x^2 + 2x = |x + 2|$

$x^2 + x - 2 = 0$ -2

$x^2 + 2x = x + 2$

$\frac{-2}{0} \quad \frac{1}{3}$