الناز بابانی

مقطع: یازدهم دختر A

(۱۹)

①

$y = -x^2 + bx + 3$ $\quad \frac{-\Delta}{4a} = 7 \rightarrow \frac{-\Delta}{-4} = 7 \rightarrow \Delta = 28 \Rightarrow b^2 + 12 \rightarrow b = \pm 4$ (۲)

②

الف) $f(x) = x^4 + 2x^2 + 3$

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

جواب ندارد

ب) $(4 - x^2)^2 - 2(4 - x^2) - 15 =$

$t^2 - 2t - 15 = 0 \quad (t-5)(t+3)$ $t = 5$, $t = -3$ (۲)

$4 - x^2 = 5 \rightarrow x^2 = -1$ ✗

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

③

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

$4x^2 - 16x + 12 = 0 \xrightarrow{\div 4} x^2 - 4x + 3 \rightarrow (x-1)(x-3)$ ① ③ (۱/۷۵)

$4x^2 - 16x + 12 = 0$ $\Delta > 0$ ✓

④

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

$P = 0 \rightarrow \boxed{m = 1}$ $\quad 2\alpha + 2\beta - 3\beta = 4 \rightarrow 2\overbrace{(\alpha + \beta)}^{4} - 3\beta = 4$ $\boxed{\alpha = 2}$ $\boxed{\beta = 0}$ (۱/۷۵)

$3x^2 - 6x = 0$ $\Delta > 0$ ✓

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 ✗ (۲)

$m = -2$ است با Δ منفی میشود.

⑥

$x^2 - mx + 3 = 0$ $\quad \alpha\beta^2 = 4 \rightarrow \overset{3}{\cancel{\alpha\beta}}\beta = 4 \rightarrow \beta = \frac{4}{3}$ $\quad \alpha = \frac{9}{4}$ (۱/۷۵)

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

$x^2 - \frac{43x}{12} + 3 \; \Delta > 0$ ✓

(۷) ۱/۷۵

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

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

$x^2-4x+3 \to \Delta>0$ ✓

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(۸)

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

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

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

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

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(۹)

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

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

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

$t=0$ غلط است

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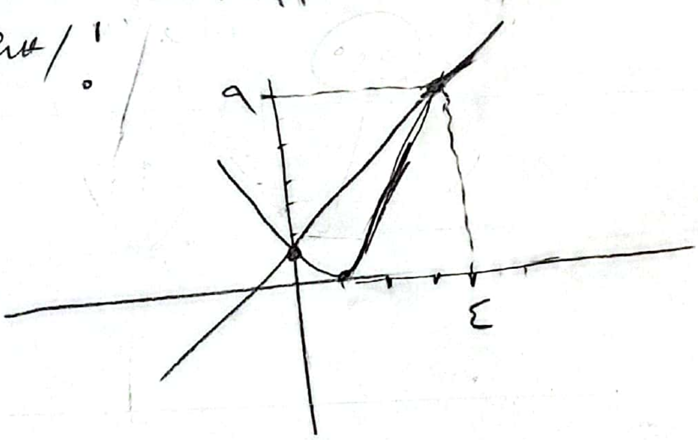
(۱۰)

الف) $(x-1)^2=2x+1$

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

x	0	4
y	1	9

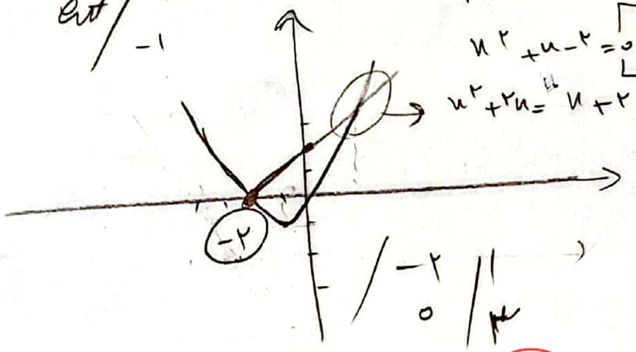


ب) $x^2+2x=|x+2|$

$x^2+x-2=0 \to 1,\ -2$

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

x	-2	1
y	0	3



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