

۱) $x^2 - 4x + 9 = 1$ $(x - 3)^2 = 1$ $x - 3 = \pm 1$ $\rightarrow x = 4$
 $x = 2$ ✓

۲) $x^2 + 8x + 14 = 9$
 $(x + 4)^2 = 9$ $x + 4 = \pm 3$ $\rightarrow x = -1$
 $x = -7$ ✓

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۱) $x^2 - 5x + 4 = 0$ $(x - 4)(x - 1) = 0$ $\rightarrow x = 4$
 $x = 1$ ✓

۲) $x^2 - 5x - 14 = 0$ $(x - 7)(x + 2) = 0$ $\rightarrow x = 7$
 $x = -2$ ✓

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۱) $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ $\frac{+3 \pm \sqrt{9 + 20}}{2}$ $\rightarrow \frac{+3 + \sqrt{29}}{2}$ ✓
 $\frac{+3 - \sqrt{29}}{2}$

۲) $\frac{+5 \pm \sqrt{14 - 5}}{2}$ $\rightarrow \frac{+5 + \sqrt{9}}{2}$ ✓
 $\frac{+5 - \sqrt{9}}{2}$

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۱) $(x - 1)(x - 2) = 0$ $\rightarrow x = 2$
 $x = 1$ ✓

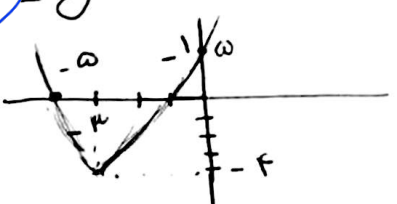
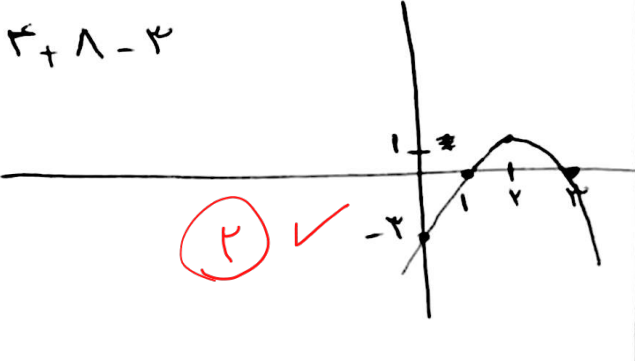
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۲) $5x^2 + x - 2 = 0$ $x^2 + x - 12 = 0$ $(x - 3)(x + 4) = 0$ $\rightarrow x = 3$ ✓
 $x = -4$

۱) $5x^2 - 12x + 7 = 0$ $x^2 - 12x + 35 = 0$ $(x - 7)(x - 5) = 0$ $\rightarrow x = 7$ ✓
 $x = 5$

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۲) $x^2 - 10x + 21 = 0$ $(x - 7)(x - 3) = 0$ $\rightarrow x = 7$ ✓
 $x = 3$

الف) $-2x^2 + \omega x - 1 = 0$ $\frac{-\omega \pm \sqrt{2\omega - 12}}{-4} \rightarrow \Delta \neq 0$ ✓ ب) $2x^2 - x + 2 = 0$ $\frac{+1 \pm \sqrt{1-16}}{4} \rightarrow \Delta < 0$ ✓ ج) $2x^2 - 4x + 2 = 0$ $\frac{+4 \pm \sqrt{16-16}}{4} \rightarrow \Delta = 0$ ✓ د) $2x^2 - x + 1 = 0$ $\frac{+1 \pm \sqrt{1-8}}{4} \rightarrow \Delta < 0$ ✓	٢
الف) $2x^2 - 3x + \alpha = 0$ $\frac{+3 \pm \sqrt{9-8\alpha}}{4}$ $9-8\alpha > 0$ $\alpha < \frac{9}{8}$ ✓ ب) $9-8\alpha = 0$ $\alpha = \frac{9}{8}$ ✓ ج) $9-8\alpha < 0$ $\alpha > \frac{9}{8}$ ✓ $\Delta \geq 0$ ✓ $9-8\alpha \geq 0$ $\alpha \leq \frac{9}{8}$	٢
الف) $y = x^2 + 4x + \omega$ $\frac{-b}{2a} = \frac{-4}{2} = -2$ (min) ✓ ب) $-f = y = 9 - 12 + \omega$ $\omega = f - 3$ ✓ 	٢
الف) $y = -x^2 + 4x - 2$ $1 = y = -x^2 + 4x - 2$ ✓ جواب: $\frac{-b}{2a} = \frac{-4}{-2} = 2$ ✓ $-x^2 + 4x - 2 = 1$ $-x^2 + 4x - 3 = 0$ $x = \frac{4 \pm \sqrt{16-12}}{-2} = 1, 3$ ✓ 	٢
$x^2 - 3x - 2 = 0$ $3 = \frac{-b}{a} = \frac{+3}{1} = 3$ الف) $8^y - 2p = 0$ $9 + 3 = 12$ ✓ $p = \frac{c}{a} = \frac{-2}{1} = -2$ ب) $8^x - 3sp = 0$ $27 + 12 = 39$ ✓	٢