

$$\frac{-b^2 - 12}{-4} = 7 \quad b^2 + 12 = 28$$

$$b^2 = 16$$

$$b = \pm 4 \quad \checkmark$$

1- (2)

الف) $z^2 + 2z + c = 0$

$\Delta < 0 \Rightarrow$ ریشه ندارد $\checkmark$

2- (2)

ب) $z^2 - 2z - 15 = 0$

$(z-5)(z+3) = 0$
 $z = 5 \quad z = -3$

$4 - x^2 = 0$

$x^2 = -4$ غلط

$4 - x^2 = -4$

$x^2 = 8 \quad x = \pm\sqrt{8} \quad \checkmark$

$\alpha + \alpha + 2 = 4$

$\alpha = 1$
 $\alpha + 2 = 3$

$\frac{m}{4} = 1 \times 2$

$m = 12 \quad \checkmark$

3- (2)

$\frac{c}{4}(\alpha + \beta) + \frac{1}{4}(\alpha - \beta) = 4$

$\frac{c}{4} \times 2 + \frac{1}{4}(\alpha - \beta) = 4$

$\alpha - \beta = 2$

$\frac{\sqrt{c^2 - 12(m-1)}}{3} = 2$

$c^2 - 12m + 12 = c^2$

$m = 1 \quad \checkmark$

4- (2)

$\frac{m^2 - 2}{-m} = 1$

$m^2 + m - 2 = 0$

$m = 1 \quad m = -2$

$\begin{cases} m = 1 & -x^2 + 4x - 1 = 0 \quad \Delta > 0 \quad \checkmark \\ m = -2 & 2x^2 + 4x + 2 = 0 \quad \Delta = 0 \quad \text{غلط} \end{cases}$

5- (2)

$\alpha\beta = 2$

$3\beta = 4$

$\beta = \frac{4}{3}$

$\alpha = \frac{3}{2}$

$\alpha + \beta = \frac{4}{3} + \frac{3}{2} = \frac{17 + 12}{12} = \frac{29}{12}$

$m = \frac{4 \times 3}{12} \quad \checkmark$

6- (2)

$\alpha + c\alpha = 4$

$\alpha = 1$

$m = 3 \times 1 = 3 \quad \checkmark$

7- (2)

$\alpha\beta = 2$

$\beta = \frac{2}{\alpha}$

$\beta^2 = \frac{4}{\alpha^2}$

$\alpha^2 + \frac{4}{\alpha^2} = \alpha^2 + \beta^2 = (\alpha + \beta)^2 - 2(\alpha\beta) = 4 - 2(2) = 0 \quad \checkmark$

8- (2)

سماکسیم ارتفاع، $\frac{+50 \times 50}{4 \times 1} = 42, 5 \quad \checkmark$

9- (2)

$-10t^2 + 50t = 0$

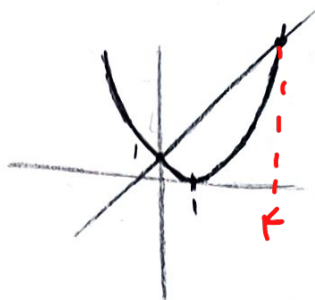
$-10t(t - 5) = 0$

$t = 0 \quad t = 5 \quad \checkmark$

الف

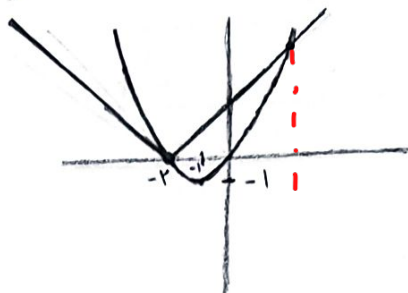
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(١, ٥)



دو جواب ٥ و ٤ = x

ب)



دو جواب ٢- و ١ = x