

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

سوال ۱:
$$j = \frac{-\Delta}{\frac{1}{2}a} \Rightarrow \frac{-(b^2 + 12)}{-\frac{1}{2}} = 12 \Rightarrow b^2 + 12 = 12 \Rightarrow b^2 = 0 \Rightarrow b = 0$$

سوال ۲:
$$\Delta = b^2 - 4ac \rightarrow 12 < 0$$

سوال ۳:
$$t = 2n^2 \rightarrow t^2 + 2t + 3 = 0$$

$$(t+1)(t+3) = 0$$

$$t = -1 \rightarrow n^2 = -1 \rightarrow n = \pm i$$

$$t = -3 \rightarrow n^2 = -3 \rightarrow n = \pm \sqrt{3}i$$

سوال ۴:
$$5n^2 - 14n + m = 0$$

$$S = \frac{-b}{a} = \frac{14}{5} \rightarrow \alpha + \beta = \frac{14}{5}$$

$$P = \frac{c}{a} = \frac{m}{5} \rightarrow \alpha\beta = \frac{m}{5}$$

سوال ۵:
$$3n^2 - 4n + m - 1 = 0$$

$$S = \frac{-b}{a} = \frac{4}{3} \rightarrow \alpha + \beta = \frac{4}{3}$$

$$P = \frac{c}{a} = \frac{m-1}{3} \rightarrow \alpha\beta = \frac{m-1}{3}$$

سوال ۶:
$$m-1 = 0 \rightarrow m = 1$$

سوال ۷:
$$P = 1 \rightarrow \frac{c}{a} = 1 \rightarrow \frac{m-1}{3} = 1 \rightarrow m-1 = 3 \rightarrow m = 4$$

سوال ۸:
$$m = 4 \rightarrow 3n^2 - 4n + 3 = 0$$

$$S = \frac{4}{3} \rightarrow \alpha + \beta = \frac{4}{3}$$

$$P = \frac{3}{3} = 1 \rightarrow \alpha\beta = 1$$

$$P = \frac{c}{a} = \frac{c}{a} = P$$

$$\alpha \beta^r = c \rightarrow (\alpha \beta) \beta = c \rightarrow P \alpha \beta = c \rightarrow \beta = \frac{c}{P}$$

$$\alpha \times \frac{c}{P} = P \rightarrow \alpha = \frac{P}{c}$$

1, VO

$$S = \alpha + \beta = -\frac{b}{a}$$

$$\frac{c}{P} + \frac{P}{c} = m \rightarrow m = \frac{c^2 + P^2}{1c}$$

$$2P = \frac{P^2}{1c} + P \rightarrow \Delta > 0 \checkmark$$

$$S = \alpha + \beta = P \alpha$$

$$S = \alpha + \beta \rightarrow -\frac{b}{a} \rightarrow c \alpha = c \rightarrow \alpha = 1 \quad \beta = P \alpha = P$$

1, VO

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

$$2P = \frac{P^2}{1c} + P \rightarrow \Delta > 0 \checkmark$$

$$x^r - Vx + r = 0 \quad x^r + \frac{\Delta}{x^r} = 0 \quad x^r - Vx + r = 0 \rightarrow x^r + r = Vx$$

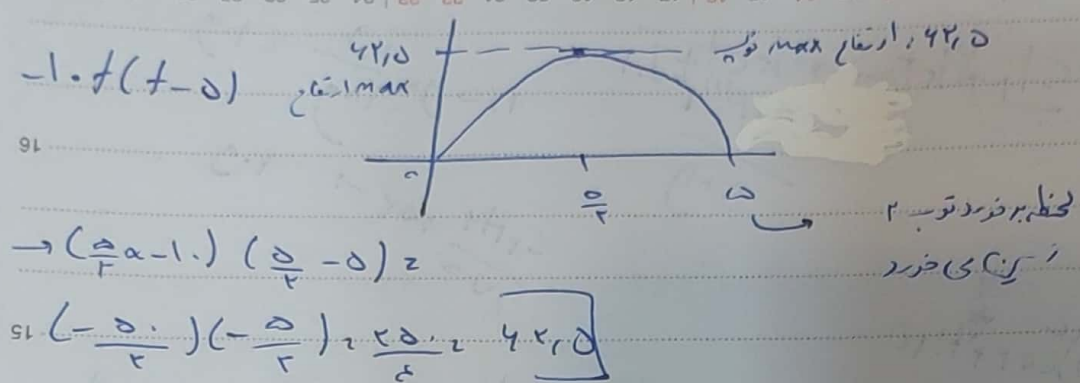
5

$$x^r + \frac{\Delta}{x^r} = (\alpha)^r + \left(\frac{r}{\alpha}\right)^r = \left(\alpha + \frac{r}{\alpha}\right) \left(\alpha^r + \frac{r}{\alpha^r} - r\right)$$

$$\alpha + \frac{r}{\alpha} = \frac{\alpha^r + r}{\alpha} = \frac{V\alpha}{\alpha} = V$$

$$\alpha^r + \frac{r}{\alpha^r} = \frac{\alpha^r + r}{\alpha^r} = \frac{(\alpha^r + r) - c \alpha^r}{\alpha^r} = \frac{(\alpha^r + r)}{\alpha^r} - \frac{c \alpha^r}{\alpha^r} = \frac{c}{\alpha^r} - c = c \left(\frac{1}{\alpha^r} - 1 \right)$$

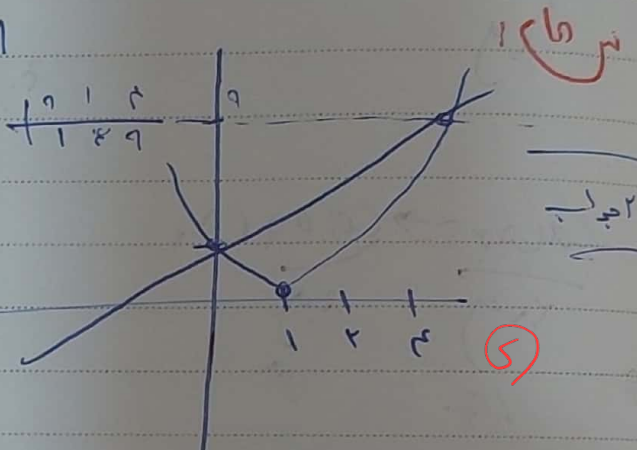
$$\rightarrow \left(\alpha + \frac{r}{\alpha}\right) \left(\alpha^r + \frac{r}{\alpha^r} - r\right) = V\alpha \left(\frac{c}{\alpha^r} - r\right) = P \alpha$$



الف) $(n-1)^2 \geq 2n+1 \rightarrow n^2 - 2n + 1 \geq 2n + 1$

2	2	1	0	1
2	1	0	1	1

جواب $\{0, 1\}$



ب) $n^2 + 2n \geq |n+1|$

3	2	1	0	-1	-2
3	2	1	0	-1	-2

جواب $\{-2, 1\}$

