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$$y = -x^2 + bx + 3$$

$$\frac{-\Delta}{4a} = v \rightarrow \frac{b^2 - 4(-1)(3)}{-4(-1)} = \frac{b^2 + 12}{4} = v \rightarrow b^2 + 12 = 28 \rightarrow b^2 = 16 \rightarrow \begin{cases} b = 4 \\ b = -4 \end{cases}$$

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$$f(x) = x^2 + 2x + 3$$

$$x^2 = t$$

$$t^2 + 2t + 3 = 0 \rightarrow \Delta < 0 \quad \text{جواب ندارد}$$

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$$g(x) = (t-x^2)^2 - 2(t-x^2) - 1$$

$$t-x^2 = t$$

$$t^2 - 2t - 1 = 0 \rightarrow (t-1)(t+3) = 0 \quad \begin{cases} t=3 = t-x^2 \rightarrow x = \pm\sqrt{3} \\ t=1 = t-x^2 \rightarrow x = 0 \end{cases}$$

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$$\frac{-b}{a} = \frac{14}{1} = 14$$

$$\alpha = \beta + 2$$

$$\beta = 1 = x \rightarrow 1 - 14 + m = 0 \rightarrow m = 13$$

$$\beta + 2 + \beta = 14 \rightarrow \beta = 1$$

$$x^2 - 14x + m = 0 \quad \text{در جواب}$$

$$x^2 - 14x + 12 = 0 \rightarrow \Delta > 0 \quad \checkmark$$

$$\alpha + \beta$$

$$x^2 - 14x + 12 = 0 \rightarrow x^2 - 14x + 3 = 0 \rightarrow (x-1)(x-13) = 0 \quad \begin{cases} x=3 = \alpha \\ x=1 = \beta \end{cases}$$

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$$\alpha + \beta = 14 \quad \frac{y}{x} = 2 \rightarrow \alpha = 2 - \beta \xrightarrow{\text{در جواب}} \alpha = 2$$

(۳)

$$2\alpha - \beta = 14 \rightarrow 2(2 - \beta) - \beta = 14 \rightarrow 4 - 2\beta - \beta = 14 \rightarrow \beta = -4 \rightarrow m - 1 = 0 \rightarrow m = 1$$

$$3x^2 - 4x = 0 \rightarrow \Delta > 0 \quad \checkmark$$

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$$\frac{c}{a} = \frac{m^2 - 2}{-m} = 1 \rightarrow m^2 - 2 = -m \rightarrow m^2 + m - 2 = 0 \rightarrow (m+2)(m-1) = 0 \quad \begin{cases} m=1 \rightarrow -x^2 + 6x - 1 = 0 \rightarrow \Delta > 0 \quad \checkmark \\ m=-2 \rightarrow 2x^2 + 4x + 2 = 0 \rightarrow \Delta = 0 \quad \times \end{cases}$$

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

$$x^2 + \beta x + \beta = 0 \rightarrow \beta = \frac{c}{r} \xrightarrow{\text{داده}} \frac{14}{9} - \frac{c}{r} m + r = 0 \rightarrow m = \frac{r^2}{14}$$

$$x^2 - \frac{r^2}{14} + r = 0 \rightarrow \Delta > 0 \checkmark$$

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$$\alpha = 2\beta$$

$$\frac{-b}{a} = r \rightarrow \alpha + \beta = r \rightarrow 6\beta = r \rightarrow \beta = 1 \xrightarrow{\text{داده}} 1 - c + m = 0 \rightarrow m = c$$

$$x^2 - cx + c = 0 \rightarrow \Delta > 0 \checkmark$$

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$$x^2 - vx + r = 0 \quad s = v / p = r$$

$$x^2 + \frac{1}{x^2} = \left(x + \frac{r}{x}\right) \left(x^2 + \frac{c}{x^2} - r\right) = v \times c \quad \boxed{v \times c = 3.01}$$

$$-1.6 + 0.6 = s = r \quad 1.6 \quad s^2 - rp = r = c \quad 9 - r = c^2$$

(11)

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$$\alpha\beta = r \rightarrow \alpha = \frac{r}{\beta}$$

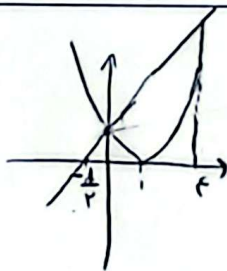
$$h_{\text{Max}} = \frac{-\Delta}{c_a} = \frac{b^2 - 4ac}{-4a} = \frac{r \Delta_0}{c_r} = \boxed{4r/11}$$

(12)

$$-1.6^2 + 0.6 = 0 \rightarrow 1.6(-0.6 + 0) = 0 \quad \begin{matrix} t = 0.35 \\ c = 0.35 \end{matrix}$$

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$$(n-1)^2 = 2n+1$$

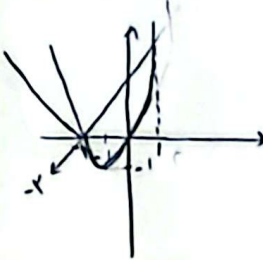


جوابی متده 5

(13)

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

$$(x+1)^2 - 1 = |x+2|$$



(14)

$$x^2 + 2x = 0 \rightarrow x(x+2) = 0$$

$$x = -2 \quad x = 0$$

ب. 1/2

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