

(تکلیف ۱۴)

(فاصله شکرانی)

(پارامتر B)

تابع مکعبی را با ۷ دارد مقدار b ؟

$$y = -x^2 + bx + 12$$

$$y_s = \frac{-\Delta}{2a} = \frac{b^2 + 12}{4} = 7$$

$$b^2 + 12 = 28$$

$$b^2 = 16$$

$$b = \pm 4$$

1

الف) $f(x) = x^2 + 2x + 12$ $x^2 = t$

$$t^2 + 2t + 12 \rightarrow b^2 - 4ac = 4 - 48 = -44 < 0 \rightarrow \Delta < 0$$

پس جواب حقیقی ندارد

ب) $f(x) = (x-2)^2 - 2(x-2) - 15$

$$t^2 - 2t - 15 = 0$$

$$(t-5)(t+3) = 0$$

$$t = 5 = x^2 \rightarrow -1 = x^2$$

$$t = -3 = x^2 \rightarrow V = x^2$$

$$x = \pm \sqrt{V}$$

2

$$x^2 - 14x + m = 0$$

آنها از جوابها از $x^2 - 14x + m = 0$ در جواب m در جواب ؟

$$S = \frac{-b}{a} = \frac{14}{1} = 14 = \alpha + (\alpha + 2) \rightarrow \begin{cases} \alpha = 1 \\ \beta = \alpha + 2 = 3 \end{cases}$$

$$P = \frac{c}{a} = \frac{m}{1} = 1 \times 3 = 3 \rightarrow m = 12$$

3

$$x^2 - 9x + m - 1 = 0$$

$$2\alpha - \beta = 9 \rightarrow 2\alpha = 9 + \beta \rightarrow \alpha = \frac{9 + \beta}{2}$$

$$m = ?$$

$$S = \frac{-b}{a} = \frac{9}{1} = 9 = \frac{9 + \beta}{2} + \beta = \frac{9 + 3\beta}{2} \quad \begin{cases} \beta = 0 \\ \alpha = 9 \end{cases}$$

$$P = \frac{c}{a} = \frac{m-1}{1} = 0 \times 9 = 0 \rightarrow m = 1$$

$$\begin{cases} \beta = 0 \\ \alpha = 9 \end{cases}$$

4

$$-mx^2 + 4x + m^2 - 2 = 0$$

m را چنان بیابیم که دو ریشه متساوی معادله در m معادله هم باشد

$$P = \alpha \times \frac{1}{\alpha} = 1 = \frac{c}{a} = \frac{m^2 - 2}{-m}$$

$$\rightarrow m^2 + m - 2 = 0$$

$$(m+2)(m-1) = 0 \rightarrow \begin{cases} m = 1 \text{ (تقریب)} \\ m = -2 \text{ (تقریب)} \end{cases}$$

$$m = -2 \rightarrow x^2 + 4x + 2 = 0$$

$$2(x+1)^2 = 0 \rightarrow \text{دو ریشه متساوی}$$

$$m = 1 \rightarrow \begin{cases} -x^2 + 4x - 1 = 0 \\ x^2 - 4x + 1 = 0 \end{cases}$$

$$\frac{4 \pm \sqrt{16-4}}{2} = 2 \pm \sqrt{3} \text{ تقریب}$$

5

$$x^r - rx + r = 0$$

$$x\beta^r = r$$

$$m = ?$$

$$P = \frac{C}{a} = r \quad (\alpha\beta)\beta = r \quad \rightarrow \quad \frac{19}{9} - \frac{r^2 m}{r} + r = 0$$

$$\frac{r^2 m}{9} = \frac{r^2 m}{r}$$

$$m = \frac{r^2 m}{r^2}$$

$$x^r - rx + m = 0$$

$$P = rx \times x = rx^r = \frac{C}{a} = m = 1 \times r = \underline{r}$$

$$S = rx + x = rx = \frac{r}{1} = r \rightarrow \boxed{x=1}$$

$$\boxed{\beta = rx = r}$$

$$x^r - vx + r = 0 \rightarrow x^r + r = vx$$

$$x^r + \frac{r}{x^r} = ? \rightarrow \left(x + \frac{r}{x}\right) \left(x^r + \frac{r}{x^r} - r\right) = v \times r^r = \underline{r \cdot 1}$$

$$\frac{x^r + r}{x} = \frac{vx}{x} = v$$

$$x^r + \frac{r}{x^r} = \frac{x^r + r}{x^r} = \frac{(x^r + r)^r}{x^r} - rx^r = \frac{r^2 x^r}{x^r} = r^2$$

$$h(t) = -1.0 t^r + 2.0 t$$

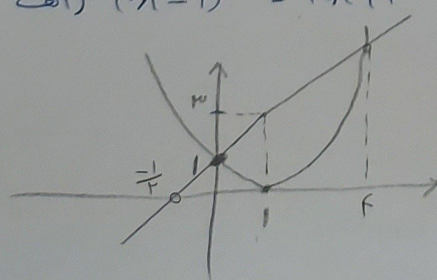
$$n_s = \frac{-2.0}{-1.0} = 2, 0 \rightarrow y_s = -1.0 \left(\frac{r_0}{r}\right) + 2.0 \left(\frac{2.0}{r}\right) = \underline{+4r, 2}$$

في أقصى ارتفاع $\rightarrow$

$$t(-1.0 t + 2.0) = 0$$

$$t = 0, \boxed{t = 2 \text{ s}}$$

$$\text{الف) } (n-1)^r = rn + 1$$

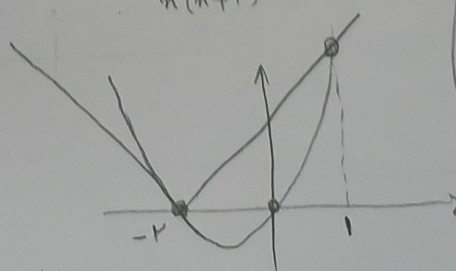


$$\boxed{n=0, n=1}$$

$$x^r + r - rx - r = 0 \rightarrow n = r$$

$$x^r - rx = 0 \rightarrow n = 0$$

$$\text{ب) } \frac{n^r + rn}{n(n+r)} = |n+r|$$



$$\boxed{n=-r, n=1}$$

$$x^r + rn - n - r = 0 \rightarrow -r$$

$$x^r + n - r = 0 \rightarrow 1$$