

$$\left| \frac{-b}{2a} = \frac{-b}{-2} = \frac{b}{2} \right| \quad y = -x^2 + bx + 2$$

$$V = \frac{b^2}{4} \left(-\frac{b^2}{4} + \frac{b^2}{2} + 2 = V \right)$$

$$\frac{b^2}{4} + \frac{11^2}{4} = \frac{21}{4} \rightarrow b^2 = 14 \quad \begin{cases} b = \sqrt{14} \\ b = -\sqrt{14} \end{cases} \quad \checkmark$$

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الف) $f(n) = n^2 + 4n^2 + 2$ $n^2 = t$

$$t^2 + 2t + 2 = 0$$

$$\Delta = 4 - 4(2 \times 1) = -4 < 0$$

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ب) $f(n) = (4-n^2)^2 - 2(4-n^2) - 15$

$$4-n^2 = t$$

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

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

$$t = 5 \Rightarrow 4-n^2 = 5 \Rightarrow n^2 = -1 \quad \times$$

$$t = -3 \Rightarrow 4-n^2 = -3 \Rightarrow n^2 = 7 \quad \checkmark$$

$$n = \pm \sqrt{7}$$

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$\alpha = \beta + 2$

$$g = \beta + 2 \cdot \beta = 2\beta + 2$$

$$p = (\beta + 2) / \beta = \beta^2 + 2\beta$$

$$g = \frac{-(-14)}{4} = \frac{14}{4} = \frac{7}{2}$$

$$p = 3 = \frac{c}{a} = \frac{m}{4} \Rightarrow m = 12 \quad \checkmark$$

$$2\beta + 2 = 4 \rightarrow \beta = 1 \quad \alpha = 3$$

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$$3n^2 - 4n + n - 1 = 0$$

$$g = \frac{4}{3} = 2$$

$$\begin{cases} \alpha + \beta = 2 \\ 2\alpha - \beta = 4 \end{cases} \quad \beta = 0$$

$$3\alpha = 4 \rightarrow \alpha = \frac{4}{3}$$

$$\alpha = 1 \Rightarrow m - 1 = 0 \rightarrow m = 1$$

$$\alpha = 2 \Rightarrow 12 - 12 + m - 1 = 0 \Rightarrow m = 1 \quad \checkmark$$

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$\alpha \cdot \beta = 1$ $\leftarrow$ بر مبنای این

$$p = \frac{c}{a} = 1 \Rightarrow \frac{m^2 - 2}{-m} = 1 \rightarrow m^2 + m - 2 = 0$$

$$(m+2)(m-1) = 0$$

$$m = -2 \quad m = 1 \quad \checkmark$$

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$$p = \frac{c}{u} = r \Rightarrow \alpha \gamma^3 = r$$

$$(r\gamma^3) \gamma^3 = r$$

$$\gamma^3 = r$$

$$\boxed{\gamma^3 = \frac{r}{r}} \quad \boxed{\alpha = \frac{q}{r}}$$

$$g = \frac{q}{r} + \frac{r}{r} = \frac{r\gamma + 1\gamma}{1r} = \frac{r\gamma}{1r}$$

$$-\frac{b}{a} = \frac{+m}{1} = \frac{r\gamma}{1r} \rightarrow m = +\frac{r\gamma}{1r}$$

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$$g = -\frac{b}{a} = r \rightarrow \alpha + \gamma^3 = r$$

$$\gamma^3 + \gamma^3 = r$$

$$\boxed{m = r} \quad \checkmark$$

$$\alpha = r\gamma^3$$

$$\boxed{\alpha = r}$$

$$r\gamma^3 = r$$

$$\boxed{\gamma^3 = 1}$$

$$p = 1 \times r = \boxed{r}$$

(2)

$$q^r + \frac{1}{q^r} = \left(\alpha + \frac{\gamma}{\alpha} \right) \left(\alpha^r - \gamma + \frac{r}{\alpha^r} \right) = \underbrace{(\alpha + \gamma)}_g \underbrace{(\alpha^r + \gamma^r - r)}_{g^r \cdot r} \Rightarrow$$

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$$p = \alpha \gamma^3 = r$$

$$\gamma^3 = \frac{r}{\alpha}$$

$$g = r$$

$$(V)(r) = \boxed{r} \quad \checkmark$$

$$q^r - (r^r) = g^r - r p g = r r^r - (r \times r \times r) = r - 1$$

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$$m_{an} = \left| \frac{-b}{2a} \right| = \frac{20}{4 \times 1/2} = 10 \quad \checkmark$$

(2)

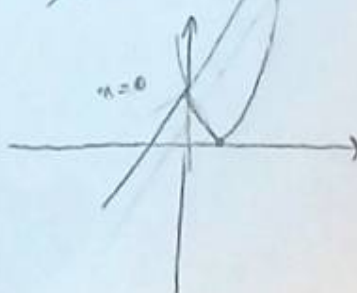
$$h(t) =$$

$$-6t^2 + 20t \Rightarrow 6t^2 - 20t = 0$$

$$6t(t - 10/3) \Rightarrow t = 0 \quad \checkmark$$

ت=0
ت=10/3

$$1) (n-1)^2 = 2n+1 \quad n=r$$



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$$2) n^2 + 2n = |n+2| \quad \left| \frac{-2}{1} \right| = -1$$



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$$n = \frac{-1 \pm \sqrt{1-4}}{2} = \frac{-1 \pm \sqrt{-3}}{2}$$