

Date: 22/9/2020 Sub:

Algebra / 01, 02, 03

$$y = an^2 + bn + c \rightarrow y = a(n-h)^2 + k \quad a(n+1)^2 + 9 = y \quad -1$$

حالت اول

→ ص: (-1, 9)

$$1 = a(n+1)^2 + 9 \Rightarrow 14a + 9 = 1 \Rightarrow a = -\frac{1}{7}$$

$$y = -\frac{1}{7}(n+1)^2 + 9 \Rightarrow y = \boxed{-\frac{1}{7}n^2 - n + \frac{16}{7}}$$

$$n^2 + mn + m + 9 = 0 \Rightarrow \Delta > 0 \quad -2$$

|    |    |
|----|----|
| -r | 1r |
| -  | +  |

$$\begin{aligned} (1) & \frac{-b}{a} > 0 \\ (2) & \frac{c}{a} > 0 \end{aligned}$$

حالت اول  
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حالت سوم

$$(1)(2)(3) \Rightarrow \boxed{(-4, -1)}$$

$$(1) b^2 - 4ac > 0 \Rightarrow m^2 - 4m - 36 > 0 \rightarrow (-\infty, -6) \cup (12, \infty)$$

(m-12)(m+6)

$$(2) \frac{-m}{1} > 0 \Rightarrow m < 0$$

$$(3) \frac{c}{a} > 0 \Rightarrow \frac{m+4}{1} > 0 \Rightarrow m > -4$$

$$n^2 + (m-1)n + 1 - m = 0 : (1)(2) \Rightarrow \boxed{m = \frac{1}{2}, -1}$$

$$(1) \Delta > 0 \Rightarrow (1) \frac{-b}{a} > \frac{c}{a} \Rightarrow a^2 - bc$$

$$m > \frac{1}{2} \Rightarrow \Delta > 0 \quad \checkmark$$

$$b^2 - 4ac > 0 \Rightarrow (m^2 + 1 - 4m - 12 + 12m) > 0 \quad m = -1 \Rightarrow \Delta > 0 \quad \checkmark$$

$$(1) a^2 - bc > 0 \Rightarrow m^2 - 4m + 1$$

$$m^2 - 4m - 1 > 0 \Rightarrow (m-2)(m+2) > 0$$

$$m > \frac{1}{2}, m < -\frac{1}{2} \Rightarrow -1$$

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$$x^2 - x - x_0 = 0 \Rightarrow S = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}, P = \frac{c}{a} = -x$$

-F

$$x_0 S' = x_1^2 + x_2^2 + \frac{x_1 + x_2}{x_1 x_2} = S' - P S P + \frac{S}{P} = \frac{a}{x}$$

$$P' (x_1^2 + \frac{1}{x_1}) (x_2^2 + \frac{1}{x_2}) = (x_1 x_2)^2 + x_1^2 + x_2^2 + \frac{1}{x_1 x_2} =$$

$$P'^2 + S' - P P + \frac{1}{P} = -\frac{P P}{P} \Rightarrow x^2 S' + P' \left[ x^2 - \frac{ab}{x} - \frac{P P}{x} \right]$$

$$x^2 - ab - P P = 0$$

$$(\sqrt{x} - 1) \left( \sqrt{x} + \frac{1}{\sqrt{x}} + 1 \right) = \sqrt{x} \Rightarrow S: 1 + \sqrt{x} + 1 - \sqrt{x} = 2$$

-A

$$\sqrt{x} = t$$

$$\hookrightarrow (t^2 - 1) \left( t^2 + \frac{1}{t^2} + 1 \right) = 2t \Rightarrow t^4 - \frac{1}{t^2} = 2t \Rightarrow t^6 - 1 - 2t^3 = 0$$

$$t^3 = m \Rightarrow m^2 - 2m - 1 = 0 \quad \Gamma \quad m_1, m_2 = 1 \pm \sqrt{2} \Rightarrow t^3 = 1 + \sqrt{2}, t^3 = 1 - \sqrt{2}$$

$$\Delta = 4 - 4(-1) = 8$$

$$\sqrt[3]{x} = t \Rightarrow t^3 = x \Rightarrow x_1, x_2 = 1 + \sqrt{2}, 1 - \sqrt{2}$$

$$x^2 - ax + c = 0, x_1 = x_2 = x \Rightarrow P = x_1 \times x_2 = (x_1)^2 = \frac{c}{a}$$

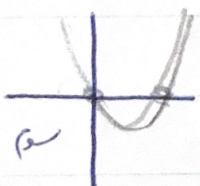
-Y

$$(x_1)^2 = \frac{c}{a} \Rightarrow x_1 = \pm \sqrt{\frac{c}{a}}, S = x_1 + x_2 = 2x_1 = \frac{-b}{a} = \frac{a}{x} \Rightarrow (x_1)^2 = \frac{a}{x}$$

$$x_1^2 = \frac{a}{x} \Rightarrow x_1^3 = \sqrt[3]{a}, x_2^3 = \sqrt[3]{a} \Rightarrow |a| = a^{\frac{1}{3}} \quad \boxed{14}$$

$$\Rightarrow \textcircled{1} a > 0 \Rightarrow \textcircled{1} \sqrt[3]{a} \cdot \sqrt[3]{a} = \sqrt[3]{a^2} \Rightarrow \text{مربع مقدار}$$

-V



$$\textcircled{2} \frac{-b}{a} > 0 \Rightarrow \frac{-3-2a}{a} > 0 \Rightarrow \frac{-3}{-1} > 0 \Rightarrow (-\frac{3}{1} > 0)$$

$$\textcircled{3} \Delta > 0 \Rightarrow (3+2a)^2 > 0 \Rightarrow$$

مربع مقدار

