

$$\frac{-1}{r\alpha - r} = r \quad \text{با } r_0$$

$$r\alpha - r = -1$$

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

$$-\frac{1}{r}x^2 + x + 1 = 0$$

$$x^2 - rx - 1 = 0$$

$$(x-1)(x+1) = 0$$

$$\boxed{x=1} \quad x = -1$$

$$m < 0$$

$$r\alpha - rm' > 0 \quad m' < \frac{r\alpha}{r} \quad -\frac{\alpha}{r} < m < \frac{\alpha}{r} \quad \Rightarrow -\frac{\alpha}{r} < m < 0 \quad \checkmark$$

$$x^2 - rx + \frac{r}{9} = 0$$

$$9x^2 - 18x + r = 0 \quad \checkmark$$

$$r(\alpha^r + \beta^r) + (\alpha^r - \beta^r) = 1r$$

$$r(r^r - r(\frac{m+r}{r})) + \frac{r}{r}(-\sqrt{r^2 - 4(m+r)}) = 1r$$

$$r^2 - rm - r - \sqrt{r^2 - 4(m+r)} = 1r$$

$$-m + 1 = \sqrt{r^2 - 4(m+r)}$$

$$m^2 + 4r - 4m = r^2 - 4m - 4r$$

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

$$(m-2)^2 = 0 \quad m = 2 \quad \checkmark$$

$$y = a(x-r)^r + 9 \quad x=0 \quad ra + 9 = 0$$

$$a = -1$$

$$-(x-r)^r + 9 > 0$$

$$-3 < x-r < 3$$

$$-1 < x < 5 \quad \checkmark$$

$$\alpha\beta = \frac{9\beta}{\alpha} \quad \begin{cases} \alpha = 3 & 3 + \beta = \frac{9}{3} & \beta = -\frac{3}{2} \\ \alpha = -3 & -3 + \beta = -\frac{9}{3} & \beta = \frac{3}{2} \end{cases}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{-\frac{9}{2}}{-3} = \frac{3}{2} \quad \checkmark$$

$$\alpha^r = -m\alpha + rm$$

$$-m\alpha + rm - m\beta = 1$$

$$-m(\alpha + \beta) + rm - 1 = 0$$

$$m^2 + rm - 1 = 0$$

$$(m+1)(m-1) = 0 \quad S = -1$$

$$m = -1 \quad m = 1$$

$$m = 1 \rightarrow x^2 + rx - 1 = 0 \quad \Delta > 0 \quad \rightarrow S = -1$$

$$m = -1 \rightarrow x^2 - rx + 1 = 0 \quad \Delta < 0 \quad \text{محقق}$$

$$\frac{-17 + 2m^2 + 2\Lambda m}{2m} = \Lambda$$

$$2m^2 - 2m - 17 = 0$$

$$m^2 - m - \frac{17}{2} = 0$$

$$(m - \frac{1}{2})(m + \frac{17}{2}) = 0$$

$$m = \frac{1}{2} \text{ or } m = -\frac{17}{2}$$

$$m < 0$$

$$-2x^2 + 2x + 7 = 0$$

$$2x^2 - 2x - 7 = 0$$

$$x = -1 \times \boxed{x = \frac{1}{2}} \checkmark$$

(2) -1

$$y = a(x - \frac{1}{2})^2 + 7 \xrightarrow{x=0} 4a + 7 = 4$$

$$y = -\frac{1}{4}(x - \frac{1}{2})^2 + 7$$

$$a = -\frac{1}{4}$$

$$y = -\frac{1}{4}x^2 + \frac{1}{2}x - \frac{1}{4} + 7$$

$$-\frac{1}{4}x^2 + \frac{1}{2}x + \frac{27}{4} = 0$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{\alpha + \beta}{\alpha\beta} = \frac{4}{-1} = -\frac{1}{\frac{1}{4}} \checkmark$$

(2) -9

$$4 - 1a - 1 + 2a^2 + 7a + 7 = 0$$

$$2a^2 - a - 1 = 0$$

$$a = 1 \text{ or } a = -\frac{1}{2}$$

$$\left\{ \begin{array}{l} a = -\frac{1}{2} \Rightarrow p = a + \frac{1}{2} = \frac{\Lambda}{2} \\ \alpha = \frac{1}{2} \checkmark \\ a = 1 \Rightarrow a + \frac{1}{2} = \Lambda \\ \alpha = 7 \checkmark \end{array} \right.$$

(2) -10