

17.5

$$\frac{-b}{2a} = \frac{-b}{-2} = \frac{b}{2} \quad -\left(\frac{b}{2}\right)^2 + b\left(\frac{b}{2}\right) + 3 \rightarrow \frac{-b^2}{4} + \frac{b^2}{2} + 3 \rightarrow \frac{b^2}{4} + 3 = 7$$

$$\frac{b^2}{4} = 4 \quad b^2 = 16 \quad \boxed{b = \pm 4}$$

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الف) $x^2 = t \quad t^2 + 2t + 3 = 0 \quad \Delta = 4 - 12 = -8$ جواب نرارد

$$\rightarrow (4 - x^2) = t \quad t^2 - 2t - 14 = 0 \quad (t - 7)(t + 3) = 0$$

$t = 7 \quad 4 - x^2 = 7 \quad x^2 = -3$ غلط

$t = -3 \quad 4 - x^2 = -3 \quad x^2 = 7 \quad \boxed{x = \pm \sqrt{7}} \checkmark$

$$\alpha = \beta + 2$$

$$s = \frac{-b}{a} = 4 \rightarrow \alpha + \beta = 4 \rightarrow \alpha = 4 - \beta$$

$$4 - \beta = \beta + 2 \quad 2\beta = 2 \quad \boxed{\beta = 1} \quad \boxed{\alpha = 3}$$

$$p = \frac{c}{a} = \frac{m}{4} = \text{ضرب مشترک}$$

$$\frac{m}{4} = 3 \quad \boxed{m = 12}$$

$4m^2 - 12m + 12 = 0$
 $\Delta > 0 \checkmark$

1.75

$$s = \alpha + \beta = 2 \quad \alpha = 2 - \beta \rightarrow 2\alpha - \beta = 4 \rightarrow 2(2 - \beta) - \beta = 4$$

$$p = \alpha \times \beta = \frac{m-1}{3} \quad 4 - 2\beta - \beta = 4 \quad -3\beta = 0 \quad \beta = 0 \quad \alpha = 2$$

$$\frac{m-1}{3} = 0 \quad \boxed{m = 1}$$

$3m^2 - 4m = 0$ $\Delta > 0 \checkmark$

1.75

$$\frac{c}{a} = 1 \quad \frac{m^2 - 2}{-m} = 1 \quad m^2 + m - 2 = 0 \quad (m+2)(m-1) = 0$$

$m \neq 0 \quad a \neq 0$

$m = -2$ GG
 $\boxed{m = 1}$

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

$\rightarrow m = 1 \rightarrow -x^2 + 3x - 1 = 0 \quad \Delta > 0 \quad \checkmark$

$$\alpha + \beta = m$$

$$\alpha \cdot \beta = n$$

$$\alpha \beta^r = r$$

$$\alpha + \beta = m$$

$$\frac{\xi}{r} + \frac{a}{\xi} = \left[\frac{\xi r}{1r} \right]$$

$$\frac{r}{\beta} \times \beta^r = r$$

$$r\beta = r$$

$$\beta = \frac{r}{r} \quad \alpha = \frac{a}{\xi}$$

$$2r - \frac{r^2}{1r} + r - \Delta \gamma \cdot \checkmark$$

1,100

$$\alpha = r\beta \rightarrow \xi - \beta = r\beta \Rightarrow \beta = 1, \alpha = r$$

$$\alpha + \beta = \xi \rightarrow \alpha = \xi - \beta$$

$$\alpha \alpha \beta = m$$

$$\boxed{m = r}$$

$$2r - r + r - \Delta \gamma \cdot \checkmark$$

1,100

$$\alpha^r - V\alpha + r = 0 \div \alpha = \alpha - V + \frac{r}{\alpha} = 0 \quad \alpha + \frac{r}{\alpha} = V \quad \alpha = \alpha \quad \beta = \frac{r}{\alpha}$$

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

$$\left(\alpha + \frac{r}{\alpha}\right)^r = \alpha^r + \frac{1}{\alpha^r} + r\left(\alpha + \frac{r}{\alpha}\right)$$

$$r\alpha^r = \alpha^r + \frac{1}{\alpha^r} + r\alpha$$

$$V^r = \alpha^r + \frac{1}{\alpha^r} + r\alpha$$

$$\alpha^r + \frac{1}{\alpha^r} = \boxed{r}$$

$$\frac{-b}{r_a} = \frac{-a_0}{-r_0} = \frac{a}{r}$$

$$-1_0 \left(\frac{a}{r}\right)^r + a_0 \left(\frac{a}{r}\right) = \left[\frac{r a_0}{\xi} \right] \text{ mark}$$

$$-1_0 t^r + a_0 t = 0$$

$$-1_0 t(t - a) = 0$$

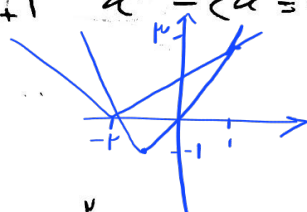
$$0 \quad t = 0 \quad t = a$$

زمان شروع $t = 0$ زمان پایان $t = a$

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(الف) $x^2 - 2x + 1 = 2x + 1 \quad x^2 - \xi x = 0 \quad x(x - \xi) = 0$ روش حدس



$$x = 0 \quad x = \xi$$

1,100

$$\rightarrow |x+1| = \text{مبت} \quad x \geq -1 \quad x^2 + x - 1 = 0 \quad x = 1 \quad x = -2$$

$$|x+1| = \text{منفی} \quad x < -1 \quad x^2 + 3x + 1 = 0 \quad x = -1 \quad x = -2 \quad x = 1, x = -2$$

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