

Date :

Subject :

ایلیا و سانی تالیف ۲۲

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برنام جدا

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

$$\alpha \cdot \beta = 2 \rightarrow \alpha = \frac{2}{\beta} \quad \left. \begin{array}{l} \alpha + \beta = 5 \end{array} \right\} \quad (1)$$

$$\frac{f\alpha + \beta^2}{\alpha\beta^2} = \frac{f\alpha}{\alpha\beta^2} + \frac{\beta^2}{\alpha\beta^2} = \frac{f \times \frac{2}{\beta}}{\alpha\beta^2} + \frac{\beta^2}{\alpha}$$

$$= \frac{1}{\alpha\beta^2} + \frac{\beta^2}{\alpha} = \frac{1}{\alpha} \left(\frac{1}{\beta^2} + \beta^2 \right) = \frac{1}{\alpha} (\alpha^3 + \beta^3)$$

$$= \frac{1}{\alpha} ((\alpha + \beta)^3 - 3\alpha\beta(\alpha + \beta)) = \frac{1}{\alpha} (5^3 - 3 \times 2 \times 5) = \frac{1}{\alpha} \times 19 = 19$$

$$y = ax^2 + bx + c$$

$$\begin{aligned} (3, -4) \rightarrow -4 &= 9a + 3b + c \\ (-1, 5) \rightarrow -4 &= 1a - 1b + c \end{aligned} \quad \rightarrow \begin{cases} 9a + 3b + c = -4 \\ a - b + c = -4 \end{cases}$$

$$\rightarrow 8a + 4b = 0 \rightarrow \frac{8}{4}a = -\frac{4}{4}b \rightarrow 2a = -b$$

$$\rightarrow 2a = -b \rightarrow -b = \frac{-2}{1}a$$

$$\text{نتیجه: } -\frac{b}{a} = \frac{-2}{1} = \boxed{\frac{2}{1}} \quad \checkmark$$

$$\frac{\sqrt{\Delta}}{|a|} = \frac{f}{r}k \rightarrow \frac{\sqrt{f^2k^2 - 4}}{1} = \frac{f}{r}k$$

$$\rightarrow \frac{f^2k^2 - 4}{1} = \frac{16}{9}k^2 \rightarrow \frac{f^2}{9}k^2 = 4 \rightarrow k^2 = 9$$

$$\rightarrow k = \pm 3$$

$$\left[\frac{k^2}{r} \right] = \left[\frac{9}{1} \right] = \left[\frac{f}{1} \right] = \boxed{9} \quad \checkmark$$

$$y = \alpha x^2 + b x + c$$

$$4\alpha + 3b + c = 12 \quad \alpha - 2b + c = 1 \rightarrow 12b = 19\alpha \rightarrow b = \frac{19}{12}\alpha$$

$$\alpha + \beta \rightarrow -\frac{b}{\alpha} = -\frac{19}{12} = -\frac{19}{12}$$

$$(\alpha + \beta)^2 - 19\alpha\beta = 1 \rightarrow 1 - 19\alpha\beta = 1$$

$$\rightarrow -19\alpha\beta = 0 \rightarrow \alpha\beta = -\frac{1}{19} = \frac{c}{\alpha}$$

$$\rightarrow c = -\frac{1}{19}\alpha$$

$$-\frac{1}{19} = 1 \rightarrow 19c - b^2 = 19\alpha \quad 19\alpha$$

$$19\alpha + (-\frac{1}{19}\alpha) - 19\alpha^2 = 19\alpha \rightarrow -19\alpha^2 - 19\alpha^2 = 19\alpha$$

$$\rightarrow -38\alpha^2 = 19\alpha \rightarrow -2\alpha = 1 \rightarrow \alpha = -\frac{1}{2}$$

$$b = -\frac{19}{12}\alpha$$

$$c = \frac{1}{19}$$

$$\Delta = \frac{-12 \pm \sqrt{12^2 - 4 \cdot 19 \cdot \frac{1}{19}}}{2 \cdot 19}$$

$$\rightarrow 12 \pm \sqrt{144 - 4} < 19 \rightarrow \sqrt{144 - 4} < 7$$

$$144 - 4 < 49 \rightarrow 140 < 49 \rightarrow m < -\frac{1}{19}$$

$$\Delta > 0 \rightarrow 12 \pm \sqrt{144 - 4} > 0 \rightarrow 12 \pm \sqrt{140} > 0 \rightarrow m > -\frac{12}{19}$$

$$-\frac{12}{19} < m < -\frac{1}{19}$$

$$-9 < -12 < -19 < -1$$

$$\frac{-A}{Fa} = r \rightarrow r a c - b^r = 1 a \rightarrow r(d m^r - m) - 1 f f = 1 m$$

$$r a m^r - 1 r m - 1 f f = 0 \rightarrow r = \sqrt{1 f f - r(-r a a)}$$

$$\frac{-b}{r a} = \frac{1 r}{f} = r$$

منقول

$$\alpha^r = \alpha \beta \rightarrow \alpha^r = \frac{c}{a} \Rightarrow \alpha^r = \frac{r a - 1}{1}$$

$$\rightarrow \alpha^r - r a + 1 = 0 \rightarrow (\alpha - 1)^r = 0 \rightarrow \alpha = 1$$

$$x^r = t \rightarrow t^r - V t - \Delta = 0$$

$$\rightarrow t = \frac{V \pm \sqrt{V^2 + 4 \Delta}}{2} \quad x^r > 0 \rightarrow x^r = \frac{V + \sqrt{V^2 + 4 \Delta}}{2}$$

$$\rightarrow x = \pm \sqrt{\frac{V + \sqrt{V^2 + 4 \Delta}}{2}} \rightarrow S = 0 \quad P = -\frac{V + \sqrt{V^2 + 4 \Delta}}{2}$$

$$r p^r + r s p + r s = \Delta q + V \sqrt{V^2 + 4 \Delta}$$

$$\text{ex} t / \frac{-b}{r a} = \frac{r}{r k}$$

$$\frac{-A}{r a} = \frac{-r k - r}{k} \rightarrow \frac{-r k - r}{r} = -1$$

$$\frac{-r k - r}{k} = -r \times \frac{r}{r k} - r \rightarrow -r k - r = -1 - r k$$

$$\rightarrow r = r k \rightarrow k = r$$

$$-m x^r + m x + 1 = -m - x$$

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$$-m x^r + m x + x + m + 1 = 0$$

$$-m x^r + (m+1)x + m+1 = 0$$

$$\Delta < 0 \rightarrow m^r + 4m+1 - 4(-m^r - m) < 0$$

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$$\rightarrow m^r + 4m+1 + 4m^r + 4m < 0$$

$$\rightarrow \Delta m^r + 4m+1 < 0 \rightarrow m^r + 4m+1 < 0$$

$$\rightarrow (m+1)(m+1) < 0 \rightarrow m = -1$$

$$-1 < 0 \rightarrow -1 < 0$$

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