

۲۰ عالی نوشتاری

$$\frac{(\alpha^r \beta^r) \alpha + \beta^w}{(\alpha + \beta) \beta^r} = \frac{\beta^r (\alpha^r + \beta^r)}{\beta^r (\alpha + \beta)}$$

$$\alpha + \beta = 8 = \Delta$$

$$\alpha \beta = p = 2$$

$$= \frac{8^r - 2ps}{8} = \frac{128 - (2 \times 2 \times 2)}{8} = \frac{96}{8} = \boxed{19}$$

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معادله درجه ۲، ریشه‌ها را می‌توانیم از فرمول درج ۲ پیدا کنیم.

$$\alpha + \beta = 8$$

$$\alpha \beta = 2$$

$$S_{\alpha, \beta} = \frac{-10 + 3}{2} \times 2 = \boxed{1, 5}$$

جمع دو نقطه هم عرض، به دو نقطه دیگر برابر است.

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$$|\alpha - \beta| = \frac{\sqrt{\Delta}}{|\alpha|} = \frac{\sqrt{4K^2 - 16}}{1} = \frac{4}{c} K$$

$$\sqrt{4(K^2 - 4)} = 2 \sqrt{K^2 - 4} = \frac{4}{c} K \rightarrow \frac{2}{c} K = \sqrt{K^2 - 4} \rightarrow \frac{4}{9} K^2 = K^2 - 4$$

$$\times \frac{9}{4} \rightarrow 9 = K^2 \rightarrow \left[\frac{K^2}{2} \right] = \left[\frac{9}{2} = 4, 5 \right] = \boxed{4}$$

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مجموع دو نقطه هم عرض

$$\left| \frac{-\Delta + 3}{2} \right| = \left| -1 \right| = \frac{b}{2a} \rightarrow b = 2a$$

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

$$S = \alpha + \beta = -\frac{b}{a} = -\frac{2a}{a} = -2$$

$$\alpha + \beta = -2$$

$$\alpha \beta = -\frac{1}{2} = \frac{c}{a} = \frac{c}{-1} \rightarrow c = 1$$

$$-2c = c + 1 \rightarrow -2 = c + 1 \rightarrow c = -3$$

$$\alpha + \beta = -2$$

$$\alpha \beta = -\frac{1}{2}$$

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$$S = \alpha + \beta = -\frac{b}{a} < 2 \times \frac{9}{4} \rightarrow -\frac{\Delta}{-1} < 9 \checkmark \rightarrow S = \Delta$$

$$\Delta > 0 \rightarrow 10 + 4m > 0 \rightarrow 4m > -10 \rightarrow m > -\frac{5}{2}$$

$$0 = m^2 - 2m - 15 \rightarrow m = \frac{2 \pm \sqrt{4 + 60}}{2} = \frac{2 \pm 8}{2} \rightarrow m = 5, -3$$

$$\sqrt{10 + 4m} < 1 \rightarrow 10 + 4m < 1 \rightarrow 4m < -9 \rightarrow m < -\frac{9}{4}$$

$$\rightarrow -\frac{9}{4} < m < -\frac{5}{2} \rightarrow m = \{-3, -4\}$$

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میدار است $m > 0$

ext $\left| -\frac{b}{2a} \right| \rightarrow +r = -\frac{\Delta}{2a} \Rightarrow \frac{144 - 4m(m-1)}{2m} = r$

$\rightarrow -\Delta m = 144 - 2m^2 + 2m \rightarrow 2m^2 - 2m - 144 = 0 \rightarrow \Delta m^2 - m - 72 = 0$
 $\rightarrow m = \frac{1 \pm \sqrt{1+288}}{2} = \frac{1 \pm 17}{2} \rightarrow \frac{18}{2} = 9 \text{ X } \text{و } \frac{-16}{2} = -8 \text{ X } \text{و } \frac{1}{2} = 0.5 \checkmark$
 معذور است: $-\frac{b}{2a} = \frac{1r}{2 \times m} = \frac{4}{18} = \frac{2}{9} = \boxed{2} \checkmark$

$\alpha = \sqrt{\alpha\beta} \rightarrow \rho = 2a-1 = 2\sqrt{\alpha\beta} - 1 = \alpha\beta \xrightarrow{\text{Subst}}$

$t^r - rt + 1 = 0 \rightarrow t = 1 \rightarrow \boxed{\alpha = 1} \checkmark$

$x^2 - vx^r - \Delta = 0 \xrightarrow{\Delta} \frac{v \pm \sqrt{v^2 + 4\Delta}}{2} \rightarrow \frac{v - \sqrt{v^2 + 4\Delta}}{2} \text{ X } \text{و } \frac{v + \sqrt{v^2 + 4\Delta}}{2} \checkmark$

$\rightarrow x = \frac{v \pm \sqrt{v^2 + 4\Delta}}{2} \rightarrow S = 0, P = -\sqrt{\frac{v+\sqrt{v^2+4\Delta}}{2}} \times \sqrt{\frac{v+\sqrt{v^2+4\Delta}}{2}} = -\frac{v+\sqrt{v^2+4\Delta}}{2}$
 $\rightarrow rP^r - rSP + rS = r \times \left(\frac{v+\sqrt{v^2+4\Delta}}{2} \right)^2 = \frac{v^2 + 4\Delta + 2v\sqrt{v^2+4\Delta}}{2} = \boxed{\Delta + v\sqrt{v^2+4\Delta}} \checkmark$

ext $\left| -\frac{b}{2a} \right| = \frac{\xi}{rK} = \frac{r}{K}$
 $\left| -\frac{\Delta}{2a} \right| = \frac{-(14 + r\xi K)}{2K} = -\frac{\xi}{K} - 4 = -r\left(\frac{r}{K} + r\right) \rightarrow -r\left(\frac{r}{K} + r\right) = -\frac{1}{K} - \xi$
 $\frac{-4K - \xi}{K} = \frac{-4K - 1}{K} \rightarrow \xi = rK \rightarrow \underline{K = 2} \rightarrow \text{ext} \left| \frac{1}{\sqrt{20}} \right| \rightarrow -\xi - \xi = -1$
 معذور است $= \boxed{-1} \checkmark$

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

$\rightarrow \Delta < 0 \rightarrow (m+1)^2 + 4m(m+1) < 0 \rightarrow m^2 + 2m + 1 + 4m^2 + 4m < 0$

$\rightarrow \Delta m^2 + 6m + 1 < 0 \rightarrow \frac{-6 \pm \sqrt{36-4}}{2} \rightarrow \frac{-6 \pm \sqrt{32}}{2} \rightarrow \frac{-6 \pm 4\sqrt{2}}{2} \rightarrow \frac{-3 \pm 2\sqrt{2}}{1}$
 $-1 < m < -\frac{1}{\Delta} \rightarrow \boxed{0} \checkmark$