

$P \rightarrow \frac{F}{r} = kx_1^2 \rightarrow x_1^2 = \frac{F}{k} \quad x_1 = \pm \sqrt{\frac{F}{k}}$
 $x_1 = 0$
 $x_2 = 3x_1$
 $x_1 = \frac{r}{r} \rightarrow x_2 = r$
 $\frac{a}{r} = \frac{1}{r} \rightarrow a = 1$
 $a = -1 \rightarrow \frac{a}{r} = -\frac{1}{r}$
 $x_1 = -\frac{r}{r}$
 $x_2 = -r$
 $1 - (-1) = 14$

$\alpha + \beta = \frac{M+14}{r^4}$
 $\alpha \times \beta = \frac{1}{r^4}$
 $(\sqrt{\frac{1}{\alpha}} + \sqrt{\frac{1}{\beta}})^2 = (\Delta)^2 \rightarrow \frac{1}{\alpha} + \frac{1}{\beta} + 2\sqrt{\frac{1}{\alpha\beta}} = 2\Delta$
 $M+14+14 = 2\Delta \rightarrow M = -1$
 $-x^2 + 3x + 1 = 0$
 $\frac{-3 \pm \sqrt{17}}{-2} \times \frac{-3 \pm \sqrt{17}}{-2} = \frac{9-17}{4} = -2$

بنابراین $\alpha\beta = -2 \quad \alpha + \beta = 1 \rightarrow x^2 - x - 2 = 0$
 $kx^2 + kx^2 - 4x - 2$
 $kx^2 - 4x - 2$
 $(k+2)x^2 - 4x - 2$
 $k+2=1$
 $k = -3$

$r_1 \alpha x^2 + r_2 \beta x^2 + (r_3 \alpha x - r_4 \beta x) = r_1 \alpha (x^2 + \beta^2) + r_3 \alpha (x^2 - \beta^2)$
 $r_1 \alpha (49 - 4a) + \frac{1}{r} ((-4)(-r\sqrt{1-a})) \rightarrow 40 - 5a + 4\sqrt{1-a}$
 $-5a + 4\sqrt{1-a} = -2 + 4\sqrt{1}$
 $15 + 4\sqrt{1-a}$
 $a = 1$

$x^2 = d \quad d \geq 0 \quad d^2 - 4d - 4 = 0$
 $d = \frac{4 \pm \sqrt{16+16}}{2} = \frac{4 \pm \sqrt{32}}{2}$
 $d_1 = \frac{4 + \sqrt{32}}{2}$
 $d_2 = \frac{4 - \sqrt{32}}{2}$
 $P = -\frac{4 + \sqrt{32}}{2}$
 $kP^2 - rP + rS = 24 + \sqrt{48}$

$$rx^r - ax + b = 0$$

$$\alpha + \frac{1}{r}, \beta + \frac{1}{r}$$

$$S = \alpha + \beta + r = \frac{a}{r}$$

$$-\frac{1}{r} + \frac{r}{r} = \frac{a}{r}$$

$$rx^r + ax - 4 = 0$$

$$S = -\frac{a}{ra} = \alpha + \beta = -\frac{1}{r}$$

$$rx^r + x - 4 = 0$$

$$\alpha = -r$$

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

$$a=1, b=4$$

$$\begin{bmatrix} a & b \\ r & r \end{bmatrix} = \begin{bmatrix} -4 & r \\ r & r \end{bmatrix} = -r$$

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$$\alpha + \beta = 1 \rightarrow rx^r - x - \frac{b}{a} = 0$$

$$rx^r - x = \frac{b}{a}$$

$$\alpha = 1 - \beta$$

$$r \cdot \beta^r + r \cdot (1 - \beta)^r - r \cdot \beta = 1 \Rightarrow r \cdot \beta(\beta - 1) = -1 \rightarrow \alpha\beta = \frac{1}{r} = -\frac{b}{a}$$

$$\Rightarrow a = -r \cdot b$$

$$ax^r - ax - b = 0 \rightarrow -r \cdot b x^r + r \cdot b x - b = 0 \quad |\alpha - \beta| = \frac{\sqrt{\Delta}}{|a|} = \frac{r}{|b|}$$

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

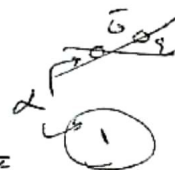
$$x_1 = r a - 1 \quad x_2 = r a + 1$$

$$P = r x^r - 1 = a \rightarrow$$

$$S = r a = a + 1$$

$$a = r \rightarrow P = r$$

$$r r - r = r$$



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

$$\alpha + \beta = -1 \quad \alpha \beta = -m^r - 1$$

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$$-\frac{b}{ra} = \frac{S}{r} = -1 \Rightarrow S = -r$$

$$S^r - rP = r - r \left(\frac{a+1}{a} \right) = 0$$

$$P = \frac{C}{a} = -\frac{1}{r}$$

$$a = -\frac{r}{r/r}$$

$$C = -\frac{a}{r} = \frac{1}{r}$$

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