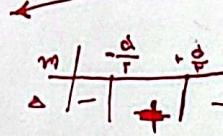
 $-\frac{1}{r}x^2 + x + r = 0$ $b^2 - 4ac < 1 + r > 0 \Rightarrow \sqrt{1+r}$ $\frac{-1 \pm \sqrt{1+r}}{-\frac{1}{r}} = -r \mp \sqrt{1+r} \Rightarrow \frac{-1 \pm \sqrt{1+r}}{-\frac{1}{r}}$	$\frac{-b}{2a} = r$ $\frac{-1}{2(a-1)} = r \Rightarrow -1 = 2r(a-1) \Rightarrow a = \frac{1}{2r} \checkmark$ $\frac{-1 \pm \sqrt{1+r}}{-\frac{1}{r}} = -r \mp \sqrt{1+r} \Rightarrow \frac{-1 \pm \sqrt{1+r}}{-\frac{1}{r}} \checkmark$	(۲) ۱
$mx^2 - dx + m = f(x)$ 	$\Delta > 0 \Rightarrow (d-rm)(d+rm) > 0$ $m < 0 \Rightarrow \frac{d}{r} < m < -\frac{d}{r}$ $m > 0 \Rightarrow \frac{d}{r} > m > -\frac{d}{r}$ $\textcircled{1} \quad -\frac{d}{r} < m < \frac{d}{r}$ $\textcircled{2} \quad m < 0 \Rightarrow -\frac{d}{r} < m < \frac{d}{r} \checkmark$	(۲) ۲
$f_2 = \frac{q}{r} = r$ $p_2 = \frac{r}{q}$ $9x^2 + 61x + 10 \checkmark$	$ax^2 + bx + c = 0$ $-\frac{b}{a} < r$ $\frac{c}{a} > \frac{r}{q}$	(۲) ۳
$r\alpha^2 + \alpha^2 + \beta^2 = r\alpha^2 + (3-rp) = r\alpha^2 + (8-10\sqrt{2}) = 1$ $\alpha + \beta < r$ $\alpha\beta = \frac{m}{r} + 1 = \frac{r\alpha^2}{r} + 1$ $\beta = r + 12r \Rightarrow r\alpha^2 = 12r - m - r$	$m < r\alpha$ $m < r\alpha \checkmark$ $\alpha + \beta > r$ $\alpha > 1$	(۲) ۴
$e^{\frac{9x^2}{4}} > c > 0$ $y = -x^2 + 6x + 4 \Rightarrow x_1 = -1, x_2 = 5$ $y = \alpha(\alpha-1)^2 + 4 \Rightarrow 0 = \alpha(0-r)^2 + 9 \Rightarrow -r = \alpha(r) \Rightarrow \alpha = -1$ $\frac{-1}{-1} > 0 \Rightarrow (-1, 5) \checkmark$	$y = -x^2 + 6x + 4 \Rightarrow x_1 = -1, x_2 = 5$ $y = \alpha(\alpha-1)^2 + 4 \Rightarrow 0 = \alpha(0-r)^2 + 9 \Rightarrow -r = \alpha(r) \Rightarrow \alpha = -1$ $\frac{-1}{-1} > 0 \Rightarrow (-1, 5) \checkmark$	(۲) ۵

$$\alpha\beta = \frac{1}{\alpha}, \alpha^2 = 1 \Rightarrow \alpha = \pm 1 \text{ و } \alpha + \beta = \frac{1}{\alpha} \Rightarrow \alpha^2 + \alpha\beta = \frac{1}{\alpha} \Rightarrow 1 + 0 = \frac{1}{\alpha} \Rightarrow \alpha = 1$$

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

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$$\alpha + \beta = -1 \text{ و } \alpha\beta = -1 \text{ و } \alpha^2 m \beta = 1 \Rightarrow \alpha^2 + \beta^2 = 1$$

$$\alpha^2 + \beta^2 = 1 \Rightarrow (\alpha + \beta)^2 - 2\alpha\beta = 1 \Rightarrow (-1)^2 - 2(-1) = 1 \Rightarrow 1 + 2 = 1 \Rightarrow 3 = 1 \text{ (Contradiction)}$$

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$$m^2 + m = 1 \Rightarrow m^2 + m - 1 = 0 \Rightarrow m = \frac{-1 \pm \sqrt{1+4}}{2} = \frac{-1 \pm \sqrt{5}}{2}$$

$$\alpha + \beta = \frac{-b}{a} = \frac{-(-1)}{1} = 1$$

$$\frac{1}{m} + \frac{1}{m} = 1 \Rightarrow \frac{2}{m} = 1 \Rightarrow m = 2$$

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$$y = -rx^2 + rx - 1, v = -x^2 + rx + 1 \Rightarrow y = v$$

$$-rx^2 + rx - 1 = -x^2 + rx + 1 \Rightarrow -rx^2 + x^2 + rx - rx - 1 - 1 = 0 \Rightarrow (1-r)x^2 - 2 = 0$$

$$K_2 = 1, K_1 = 2 \checkmark$$

$$C = \frac{1}{\alpha} \Rightarrow y = \alpha(x-h) + k \Rightarrow r = \alpha(-r) + k \Rightarrow -r = -r + k \Rightarrow k = 0$$

$$y = \alpha(x-h) + k = \alpha(x-h)$$

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$$y = -\frac{1}{r}x + r \Rightarrow \frac{1}{\alpha} = \frac{1}{\beta} = \frac{1}{\rho} = \frac{1}{-1} = -1 \checkmark$$

$$x = r \Rightarrow r = 1d + 1 + (ca + ras) = 0$$

$$\beta = \frac{1}{\alpha} + r = \frac{1}{1} + 1 = 2 \checkmark$$

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

$$\alpha^2 + \frac{1}{\alpha^2} + 2r\alpha + r^2 = 1$$

$$\alpha^2 + \frac{1}{\alpha^2} + 2r\alpha + 1 = 1 \Rightarrow \alpha^2 + \frac{1}{\alpha^2} + 2r\alpha = 0$$

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

$$\alpha^2 + \frac{1}{\alpha^2} = -2r\alpha \Rightarrow \alpha^4 + 1 = -2r\alpha^3$$

$$\alpha^4 + 1 = -2r\alpha^3 \Rightarrow \alpha^4 + 1 = -2r\alpha^3$$

$$\alpha^4 + 1 = -2r\alpha^3 \Rightarrow \alpha^4 + 1 = -2r\alpha^3$$

$$\alpha + \beta = 1 \Rightarrow \alpha + \frac{1}{\alpha} + r = 1$$

$$\alpha + \frac{1}{\alpha} + r = 1 \Rightarrow \alpha + \frac{1}{\alpha} + 1 = 1 \Rightarrow \alpha + \frac{1}{\alpha} = 0$$

$$\alpha + \frac{1}{\alpha} = 0 \Rightarrow \alpha^2 + 1 = 0 \Rightarrow \alpha^2 = -1 \Rightarrow \alpha = \pm i$$

$$\delta = \frac{19}{9} \checkmark$$

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