

# Subject:

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$$y = (a-1)x^r + x + r \quad \frac{-b}{ra} = r = \frac{-1}{ra-r} = r \Rightarrow ra - \varepsilon = -1 \rightarrow a = \frac{r}{\varepsilon}$$

$$y = \frac{-1}{r}x^r + x + r \Rightarrow y = \left(-\frac{1}{r}x + r\right)\left(\frac{1}{r}x + 1\right) = 0 \quad \begin{matrix} < 0 \\ > -r \end{matrix}$$

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$$mx^r - \omega x + m \rightarrow \begin{matrix} x_1 & x_2 \\ - & + \\ | & | \\ - & + \end{matrix} \Rightarrow a < 0 = m < 0 \quad \text{I}$$

$$\Delta > 0 \rightarrow ra - \varepsilon m^r > 0 \Rightarrow m^r < \frac{ra}{\varepsilon}$$

$$\frac{-\omega}{r} < m < \frac{\omega}{r} \quad \text{II}$$

$$\text{In II} = \left(\frac{-\omega}{r}, 0\right)$$

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$$\frac{r-\sqrt{\omega}}{r}, \frac{r+\sqrt{\omega}}{r} \rightarrow y = a(x^r - sx + p), \quad \left. \begin{matrix} s = r = \frac{r+r}{r} = r \\ p = x_1 \cdot x_2 = \frac{r}{a} \end{matrix} \right\} a = 9$$

$$y = 9x^r - 18x + \varepsilon$$

$$15. \quad rx^r - \lambda x + m + r = 0 \quad \alpha < \beta \quad r\alpha^r + \beta^r = 1r \rightarrow \alpha^r + \beta^r + r\alpha^r = 1r \Rightarrow r\alpha^r = m - r$$

$$s = \varepsilon$$

$$p = \frac{m+r}{r}$$

$$rx^r - \lambda x + m + r = 0 \Rightarrow x = \frac{\lambda \pm \sqrt{4\varepsilon - \lambda(m+r)}}{r} = \frac{\lambda \pm r\sqrt{1r - m}}{\varepsilon}$$

$$\alpha, \beta = \frac{r \pm \sqrt{1r - m}}{r} \Rightarrow \alpha^r = \frac{r(1 - r m - \sqrt{1r - m})}{r}$$

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$$r\alpha^r = 1r - m - r\sqrt{1r - m}$$

$$\Rightarrow m - r = 1r - m - r\sqrt{1r - m} \Rightarrow 1r - rm = r\sqrt{1r - m} \Rightarrow rm^r - 4\varepsilon m + r\omega r = 19r - 14rm$$

$$rm^r - 14r + 4\varepsilon = 0 \rightarrow m^r - 14m + 14 = 0$$

$$(m-1)^r = 0 \Rightarrow m = 1$$

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

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$$y = a(x-h)^r + k \rightarrow y = a(x-r)^r + a = ax^r - fax + ra + a$$

$$ra + a = \omega \rightarrow a = -1$$

$$-x^r + rx + \omega = (-x + \omega)(x + 1)$$

$$\begin{matrix} -1 & \omega \\ - & + \\ | & | \\ 0 & 0 \end{matrix}$$

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

$$P = \frac{C}{\alpha} = \frac{q\beta}{\alpha} = \alpha\beta \rightarrow \frac{q}{\alpha} = \alpha \Rightarrow \alpha^2 = q \Rightarrow \alpha = \pm \sqrt{q}$$

$$S = \begin{cases} \frac{V}{r} = \alpha + \beta \Rightarrow \beta = \frac{r}{\alpha} \\ \frac{-V}{r} = -\alpha + \beta \Rightarrow \beta = \frac{r}{\alpha} \end{cases}$$

$$\frac{1}{\alpha} + \frac{1}{\beta} = \frac{1}{r} + \frac{r}{r} = \frac{V}{q}$$

$$S = \alpha + \beta = \frac{-b}{a} = -m, \quad P = -r = \frac{C}{a}$$

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

$$S^2 - rP + P = 1 \Rightarrow S^2 - P = 0$$

$$m^2 + r = 1 \rightarrow (m-r)(m+r) = 0$$

$$\begin{cases} -2 < \Delta < \\ r \Rightarrow S = -r \end{cases}$$

$$f(x) = mx^2 + rx + \frac{m}{r} + V$$

$$S = \frac{-b}{2a} \rightarrow \frac{-14 + rm^2 + rm}{2m} = 1 \Rightarrow rm^2 + rm - 14 = 2rm \rightarrow rm^2 - rm - 14 = 0$$

$$m^2 - rm - 14 = 0 \rightarrow (m-14)(m+r) = 0$$

$$\begin{matrix} \swarrow & \searrow \\ m=14 & m=-r \end{matrix}$$

$$15. f(x) = -rx^2 + rx + 4 \rightarrow rx^2 - rx - 4 = 0 \Rightarrow x^2 - x - \frac{4}{r} = 0$$

$$\begin{cases} -1 \\ r = k = x_r \end{cases}$$

$$S = \frac{h}{k} \rightarrow y = a(x-h)^2 + k \rightarrow y = a(x-r)^2 + 4$$

$$x=0 \rightarrow y = ra^2 + 4 = 8 \Rightarrow a = \frac{-1}{r}$$

$$y = \frac{-1}{r}(x^2 - rx + r) + 4 = \frac{-1}{r}x^2 + x - 1 + 4 = \frac{-1}{r}x^2 + x + 3$$

$$\begin{matrix} S=8 \\ P=\frac{r}{\mu} \end{matrix}$$

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

$$x^2 - (ra + r)x + (ra^2 + 4a + r) = 0 \xrightarrow{x_1=r} r - 1a - 1 + ra^2 + 4a + r = 0$$

$$ra^2 - ra - 1 = 0 \begin{cases} a=1 = x^2 - 1x + 1 \rightarrow r, 9 \\ a=\frac{-1}{r} = x^2 - \frac{1}{r}x + \frac{r}{r} \rightarrow r, \frac{r}{\mu} \end{cases}$$

$$25. \Delta > 0 \rightarrow 14(a+1)^2 - 12(a+1)^2 > 0 \rightarrow 2(a+1)^2 > 0$$

$$a \neq -1$$

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