

المسألة: إيجاد A و B في المعادلة $y'' + 4y' + 4y = 0$

1 $y'' + 4y' + 4y = 0 \rightarrow \frac{1}{r^2} s^2 + \frac{4}{r} s + 4 = 0 \rightarrow \frac{s^2 + 4s + 4r}{r^2} = 0 \rightarrow s^2 + 4s + 4r = 0$ (1)

3 $\rightarrow y = -\frac{1}{r} e^{rs} + n e^{rs} = 0$

4 $\Delta = 16 - 16r = 0 \rightarrow r = 1$ $\Delta = 1 - (4 \times \frac{1}{r}) = 0 \rightarrow r = 1$

7 $y'' + 4y' + 4y = 0 \rightarrow y' + 2y = 0 \rightarrow y' = -2y \rightarrow \frac{dy}{y} = -2dx \rightarrow \ln y = -2x + \ln C \rightarrow y = \frac{C}{e^{2x}}$ (1)

8 $y = \frac{C}{e^{2x}} \rightarrow m = -2 \rightarrow m \in (-\infty, \infty)$

10 $\alpha = \frac{c - f_0}{r}, \beta = \frac{c + f_0}{c} \rightarrow \alpha + \beta = 2 \rightarrow \alpha = 2 - \beta$ (1)

13 $\alpha = \frac{m e^r}{r}, \beta = \frac{m e^r}{r} \rightarrow \alpha + \beta = 2 \rightarrow \beta = 2 - \alpha$ (1)

14 $\alpha = \frac{m e^r}{r}, \beta = \frac{m e^r}{r} \rightarrow \alpha + \beta = 2 \rightarrow \beta = 2 - \alpha$

16 $\frac{m e^r}{r} = c \rightarrow m e^r = c r \rightarrow m = \frac{c r}{e^r}$ $\beta = \frac{c r}{e^r}$

18 $a x^2 + b x + c$ $\frac{-1}{-} + \frac{\omega}{+} = \rightarrow (-1, \omega)$ (1)

20 $(x, y) \rightarrow \frac{1}{x} a + \frac{1}{y} b = \frac{1}{x} \rightarrow a + \frac{b}{y} = 1 \rightarrow a = 1 - \frac{b}{y}$

~~$$22^{\text{r}} \text{ Vm} + 9\beta s \rightarrow \rho s \frac{9\beta}{9} s 9\beta \rightarrow 9^{\text{r}} \beta s 9\beta \rightarrow 9 s \text{tr}$$~~ (14)

$$\hookrightarrow S \propto \frac{1}{\mu} \rightarrow \frac{1}{\mu} \propto \frac{1}{B} \rightarrow B \propto \frac{1}{S} \propto \frac{1}{\omega} \propto \frac{1}{f}$$

$$\log s - \frac{1}{s} = \frac{1}{s} \log s - \frac{1}{s} + \beta \rightarrow \beta s \frac{1}{s} \sqrt{\bar{O}\bar{O}}$$

$$\Rightarrow \frac{1}{9} + \frac{1}{10} - 5 \left[\frac{1}{-10} + \frac{\mu}{1} - \frac{\nu}{8} \right]$$

$$2^r, m \mid \gamma_m \leq 0 \rightarrow \beta^r, m \mid \gamma_m \leq 0 \rightarrow m \mid \beta \leq \gamma_m - \beta^r \quad (16)$$

$$\alpha^r - m\beta \leq \lambda \xrightarrow{*} \alpha^r + \beta^r - \gamma_m = \lambda \rightarrow m^r + \gamma_m = \lambda \leq 0 \quad *$$

$$x^2 + px + S^2 - r_p = m^2 + \varepsilon m \quad (m+1)(m-2) \rightarrow m = -2 \times \text{O.O.E.}$$

*: $2^2 \Delta = 0 \rightarrow \Delta = 14 - 14 = -14 \times$

$S = m \cdot r$

$$\frac{-\Delta}{\epsilon a} \approx \frac{-14 + \gamma_m^2 + \gamma_a m}{\epsilon m} \approx \gamma_m^2 + \gamma_a m - 14 \approx \gamma_m^2 \quad (12)$$

$$\rightarrow 2m^2 - 2m - 14 \leq 0$$

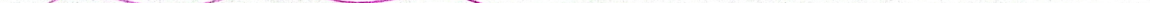
★: $\{x' + \varepsilon x + 9 \leq 0 \rightarrow 14 - 1 \leq x \leq 15\}$

$m^2 - 3m - 10 \leq 0 \quad (m + 2)(m - 5)$

$$m = r \cdot s \cdot y \quad a + c \leq b \quad \text{--- (ii)} \quad m = -r^u \quad m = s^u$$

~~$$y = 1.2 + 0.8x$$~~

16. (دای منفرجه) *



$(0, \varepsilon) \rightarrow c = \varepsilon$ (9)

$$(Y, Y) \rightarrow -b/a \leq Y \rightarrow \{a \leq -b$$

$$u \quad \varepsilon a, \quad b \leq r \quad \rightarrow a s^{-1/r}, \quad b s^r \rightarrow y s^{-2/r} + r x + \varepsilon$$

$$S \approx \epsilon, p \approx -1/2$$

$$\Rightarrow \frac{1}{2} + \frac{1}{2} = \frac{1}{2} \Rightarrow (-1)$$

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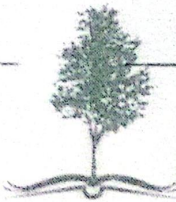
(12)

$$18 \quad 25r \rightarrow \varepsilon - \lambda a - \lambda e^{\lambda a^2} + 4a + 15 \rightarrow 2a^2 - 2a - 150$$

المسألة
19 $\rightarrow a=1, -1/\mu$

$$20 \quad a=1, y=2 \rightarrow \lambda x + 12 \rightarrow 25r, (4)$$

$$21 \quad a=1, y=2 \rightarrow \lambda x - \frac{\lambda x}{\mu} + \frac{\varepsilon}{\mu} \rightarrow 2, (1/c)$$



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