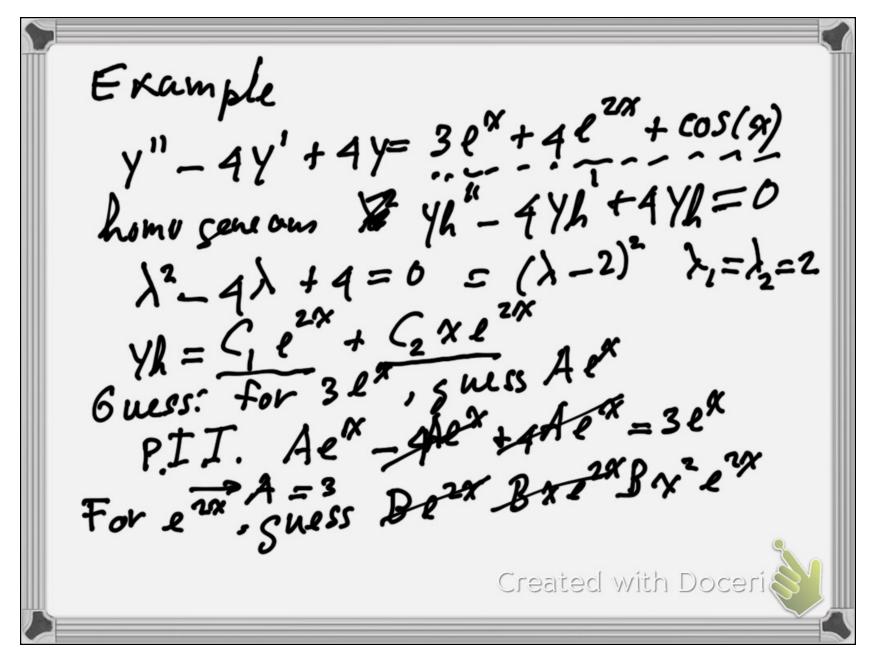
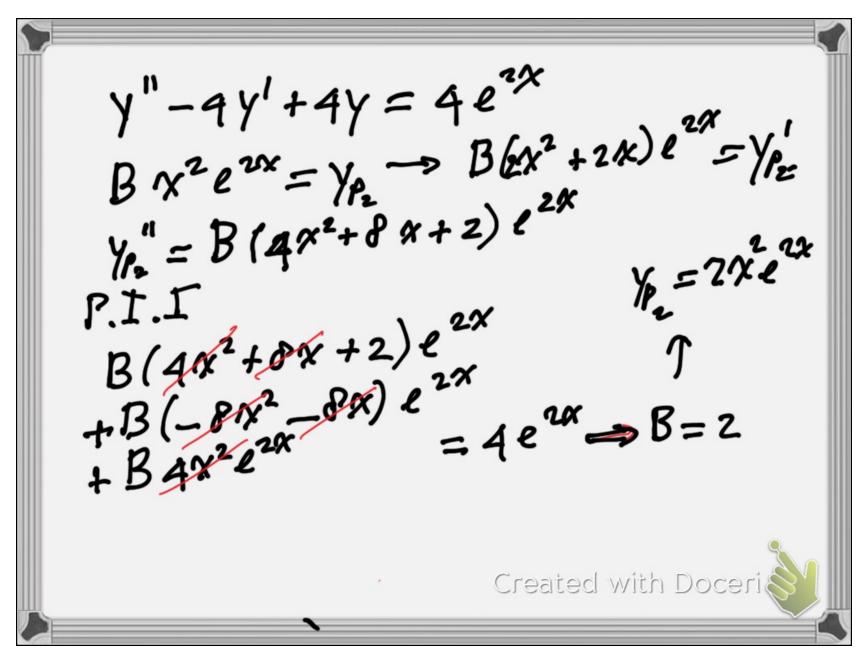


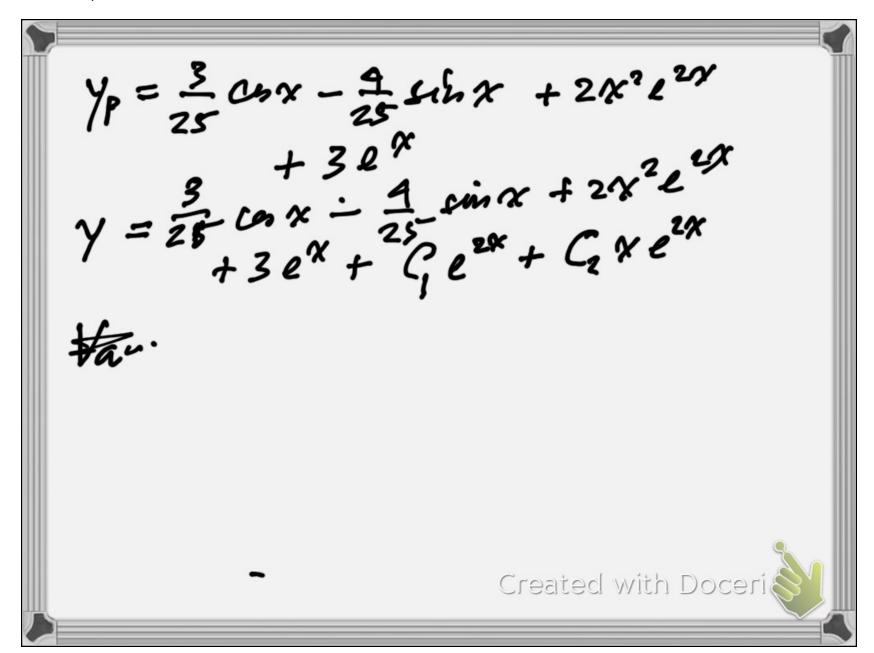
Undekimined coefficients lor Inhomogeneous Guese A+Bx+...+Cxn+.... A cos (ax) + Bsin(ax) a + 6x+ -- + cx1 cos (ax) } or 4 H.S. NA ear ar General Solution= particular solutions
+ homogeneous solutions

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Variation of parameters Example: yout y = tan (x) homo sol: Yh" + Yh =0 $\chi^{2}_{H} = 0 \quad \lambda = \pm V - 1 = \pm i$ $\chi = C_{1}e^{ix} + C_{2}e^{-ix} \quad \text{cleanup}$ $\chi = A \cos x + B \sin x$ $P.T.T = A(\alpha) cos x + B(\alpha) sin x pro-$ P.T.T = -i A sin x + B cos x pro-+ A'cos x + B'sin xreated with Doceria

 $y'' = -A \sin x + B \cos x + 0$ $y'' = -A \cos x - B \sin x$ Assis last term: plus it all in cos x sin x cos x tan(x) cos x cos aim110420.pdf Page 9 of 10

$$B' = Sih x \qquad A' = \frac{\sin^2 x}{\cos x} = \frac{1 + \cos^2 x}{\cos x}$$

$$= \frac{1}{\cos x} + \cos x$$

$$B = -\cos x + B_0$$

$$A = Sih x - \ln |\sec(x) + \tan(x)| + A_0$$

$$Y = A \cos x + B \sin x$$

$$Y = \sin x - \cos x \ln |\sec(x) + \tan(x)|$$

$$= \sin x \cos x - \cos x \ln |\sec(x) + \tan(x)|$$

$$+ A_0 \cos x + B_0 \sin x - \cos x \sin x$$
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