Wednesday, November 24, 2021 1:35 PM Method of Variations of Parameters (a) Solve  $\frac{d^2y}{dx^2} + a \frac{dy}{dx} + 5y = e^{x} tanx$ by method of Variatini of Parameters. Home Work dr2 + y = Cosec x by method of Moriatins
of Parameters m = -1 ± 2 i CF = A 1, +B 12

riatini of parameters.

x by method of Mariatinis of Parameters

$$1 = \frac{-2}{4} = 0$$

$$1 = \frac{1}{4} = 0$$

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AE 
$$m^2 + 2m + 5 = 0$$
  
 $m = -2 + \sqrt{4 - 20}$   
 $m = -1 + 2i$   
 $(F = -2i) \left[ A(0x 2x) + B \sin 2x \right]$   
 $(F = A(e^{2x} (0x 2x)) + B(e^{-2x} \sin 2x)$   
 $(F = A(1 + B) = e^{-2x} \sin 2x$   
 $\int_{1}^{1} = -2e^{-2x} \sin 2x - e^{2x} \cos 2x$   
 $\int_{1}^{2} = 2e^{-2x} \cos 2x$   
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PI = P1 + Q12  $P = - \int \frac{d^2}{Dem} f(x) dx$  $= -\int \frac{e^{\chi} \sin 2\chi}{2e^{\chi}} e^{\chi} \tan \chi d\chi$  $= -\frac{1}{2} \int \frac{\partial \sin \pi \cos \pi}{\partial x} \left( \frac{\sin \pi}{\cos x} \right) d\pi$   $= -\frac{1}{2} \cdot 2 \int \frac{\sin \pi}{\cos x} dx$   $= -\frac{1}{2} \cdot 2 \int \frac{\sin \pi}{\sin x} dx$   $\int \frac{\sin \pi}{\cos x} = 1 - \frac{\cos 2\pi}{2}$ 

$$= -\int \left(\frac{1 - (0.52)}{2}\right) dx$$

$$= -\left(\frac{2x}{2} - \frac{5 \ln 2x}{4}\right)$$

$$= -\frac{2x}{2} + \frac{5 \ln 2x}{4}$$

Dem
$$\int \frac{e^{2k} \cos 2\pi x}{2e^{2k}x} \int \frac{e^{2k} \tan \pi x}{2e^{2k}x} dx$$

$$\int (2\cos 2\pi x) \int \frac{\sin x}{\cos x} dx$$

 $(\omega \lambda x) = \lambda (\omega x - 1)$   $(\Delta x) = \lambda (\omega x)$   $(\omega x)$ 

$$\frac{1}{2} = \frac{1}{2} + \frac{1}{4}$$

$$\frac{1}{2} = \frac{1}{2} + \frac{1}{4}$$

$$= \int \frac{1}{2} \int \frac{1}{$$

PT = 1/21+Q12

a = log/sinn()

y = A (0) > 1 + B sinx +

PI = -x (os) + log(sinx) sinx

(F = A (a))(+Bsin)

Homework

$$CF = A \left(\frac{\partial}{\partial x}\right)^{2}$$

Den = 2 = 2x

(a)  $\frac{1}{20}$  (3) + 20 + 5) = -3( | an )(A.E.  $m^2 + 2m + 5 = 0$  $M = -2 \pm \sqrt{4-20}$  $(F = \frac{-21}{6}) \left[ A(\cos 2)(1 + B\sin 2$  $CF = A\left(\frac{-2}{e}(\omega s_2 s_1) + B\left(\frac{-3}{e}(\sin z_2)\right)\right)$