$y'' + y = xE^x \sin(x)$.

$y_p = (ax+b)e^x \sin(x) + (cx+d)e^x \cos(x)$

$y_p'' + y_p = (ae^x \sin(x) + (ax+b)e^x \sin(x) + (ax+b)e^x \cos(x))' + (ce^x \cos(x) + (cx+d)e^x \cos(x) - (cx+d)e^x \sin(x))' + (ax+b)e^x \sin(x) + (cx+d)e^x \cos(x) = ae^x \sin(x) + ae^x \cos(x) + ae^x \sin(x) + (ax+b)e^x \sin(x) + (ax+b)e^x \cos(x) + ae^x \cos(x) + (ax+b)e^x \cos(x) - (ax+b)e^x \sin(x) + ce^x \cos(x) - ce^x \sin(x) + ce^x \cos(x) + (cx+d)e^x \cos(x) - (cx+d)e^x \sin(x) - ce^x \sin(x) - (cx+d)e^x \sin(x) - (cx+d)e^x \cos(x) + (ax+b)e^x \sin(x) + (cx+d)e^x \cos(x) = (2a+b-2c-2d)e^x \sin(x) + (2a+2b+2c+d)e^x \cos(x) + (2a+c)xe^x \cos(x) + (a-2c)xe^x \sin(x) = xe^x \sin(x)$,

$$\begin{cases} 2a+b-2c-2d=0 \\ 2a+2b+2c+d=0 \\ 2a+c=0 \\ a-2c=1 \end{cases}$$

$$\begin{cases} a=1/5 \\ c=-2/5 \\ 6/5+b-2d=0 \\ -2/5+2b+d=0 \end{cases}$$

$$\begin{cases} a=1/5 \\ c=-2/5 \\ b=-2/25 \\ d=14/25 \end{cases}$$

Svar: $y_p = (1/5x - 2/25)e^x \sin(x) - (2/5x - 14/25)e^x \cos(x)$.