

we have

$$s^2 \mathcal{L}(x(t)) + s^2 \mathcal{L}(y(t)) = \frac{1}{s-2}$$

$$2s \mathcal{L}(x(t)) + s^2 \mathcal{L}(y(t)) = \frac{1}{s+2}$$

$$s^2 \bar{X}(s) + s^2 \bar{Y}(s) = \frac{1}{s-2}$$

$$2s \bar{X}(s) + s^2 \bar{Y}(s) = \frac{1}{s+2}$$

$$\left[\begin{array}{cc|c} s^2 & s^2 & \frac{1}{s-2} \\ 2s & s^2 & \frac{1}{s+2} \end{array} \right]$$