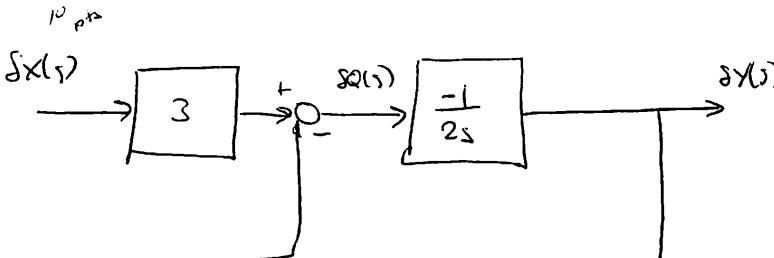


$$\frac{Y(s)}{F(s)} = \frac{-1}{s^2 + 2s + 3}$$

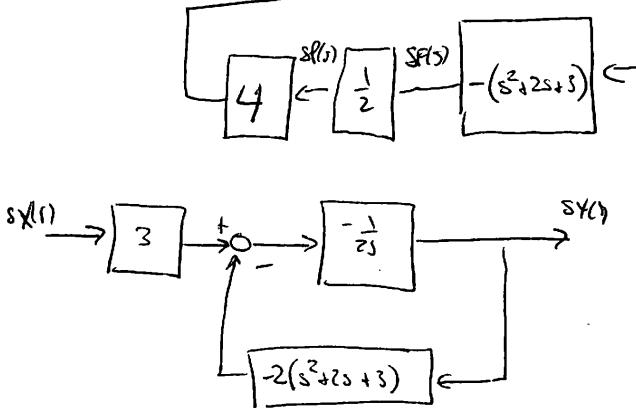
$i\omega_p$   $\gamma(s)$



$$m + 4c_k \omega_p - Y$$

$$m \cdot b_x \omega_p - S$$

$$\frac{1}{m \omega_i} = 3$$



$$\frac{\delta y(i)}{\delta x(i)} = \frac{-\frac{1}{2s}}{1 + \frac{s^2 + 2s + 3}{s}} - 3$$

$$= \frac{-3/2}{s^2 + 3s + 3}$$