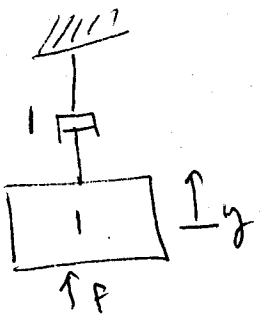
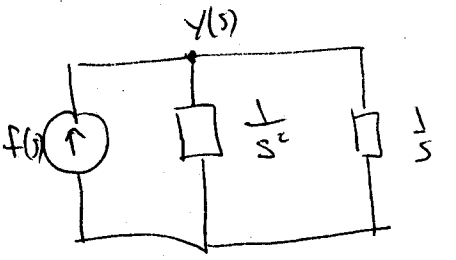
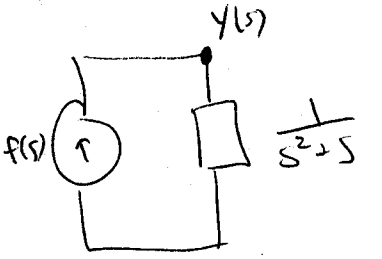
Load impedance



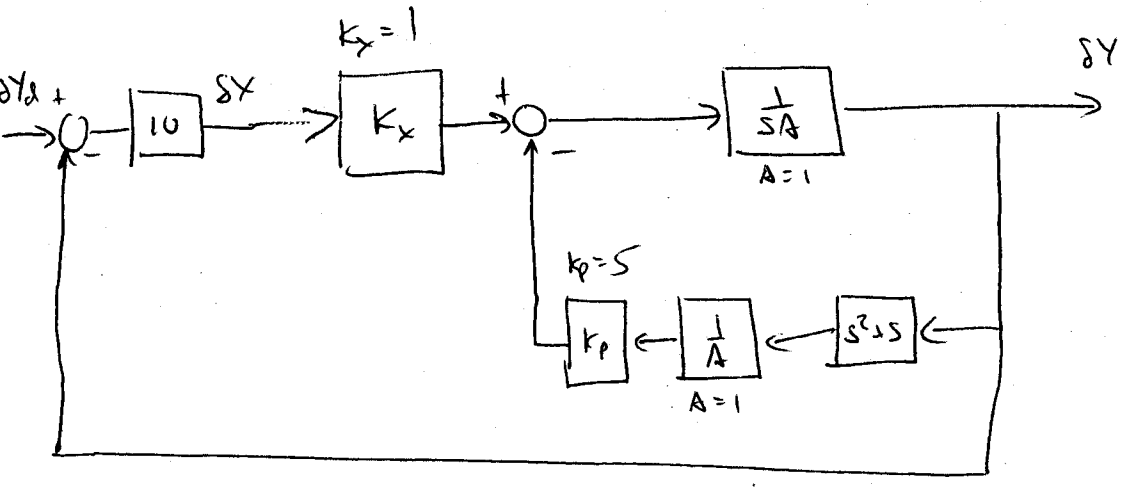


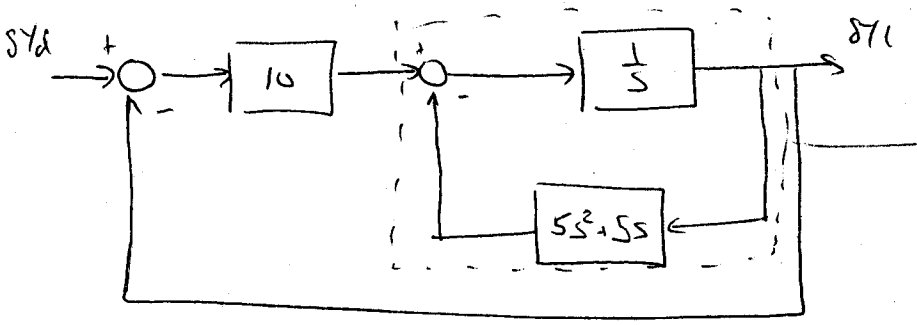
=



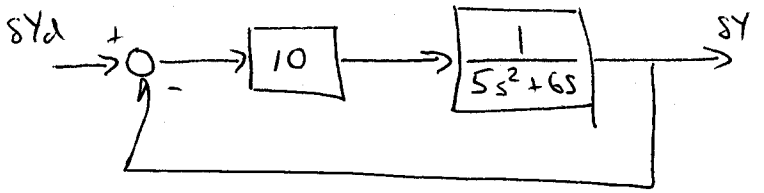
$$\frac{Y(s)}{F(s)} = N(s) = \frac{1}{s^2+s}$$

Hydraulic Block diagram with control





$$\frac{\frac{1}{s}}{1 + \frac{5s^2+5s}{s}} = \frac{1}{5s^2+6s}$$



$$\frac{\delta Y}{\delta Y_d} = \frac{\frac{10}{5s^2+6s}}{1 + \frac{10}{5s^2+6s}} = \frac{10}{5s^2+6s+10}$$

$$= \frac{2}{s^2 + \frac{6}{5}s + 2}$$