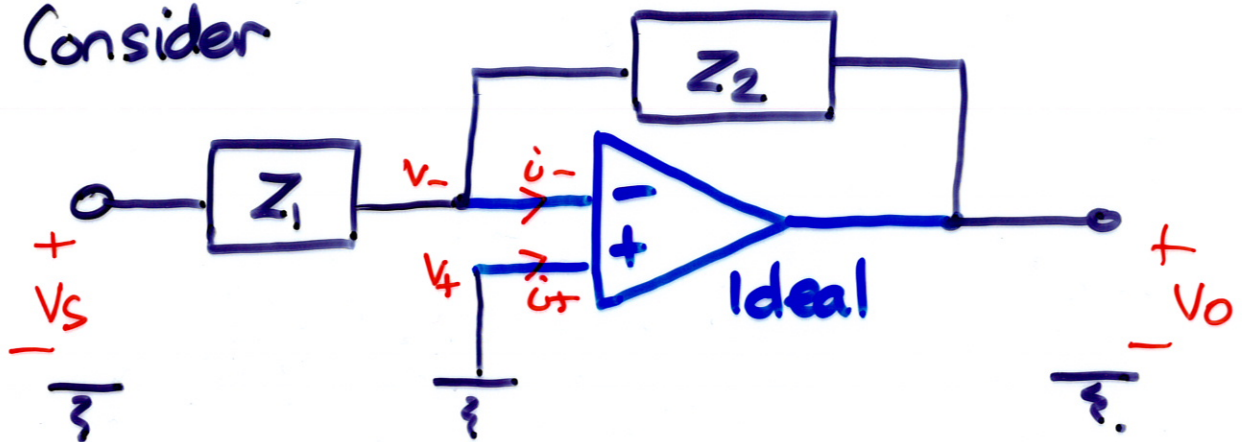


Now what about sinusoids in steady state?

Consider



what is  $\frac{V_o}{V_s}$ ? (phasor analysis)

KCL at -ve terminal  $\frac{V_s - V_-}{Z_1} + \frac{V_o - V_-}{Z_2} = i_-$

Ideal op amp  $\Rightarrow i_- = 0$   
also  $V_+ = 0 \Rightarrow V_- = 0$

Therefore  $\frac{V_o}{V_s} = \frac{-Z_2}{Z_1}$

If  $Z_1 = R_1$  and  $Z_2 = C // R_2$

$$\frac{V_o}{V_s} = \frac{-R_2/R_1}{1 + j\omega CR_2}$$