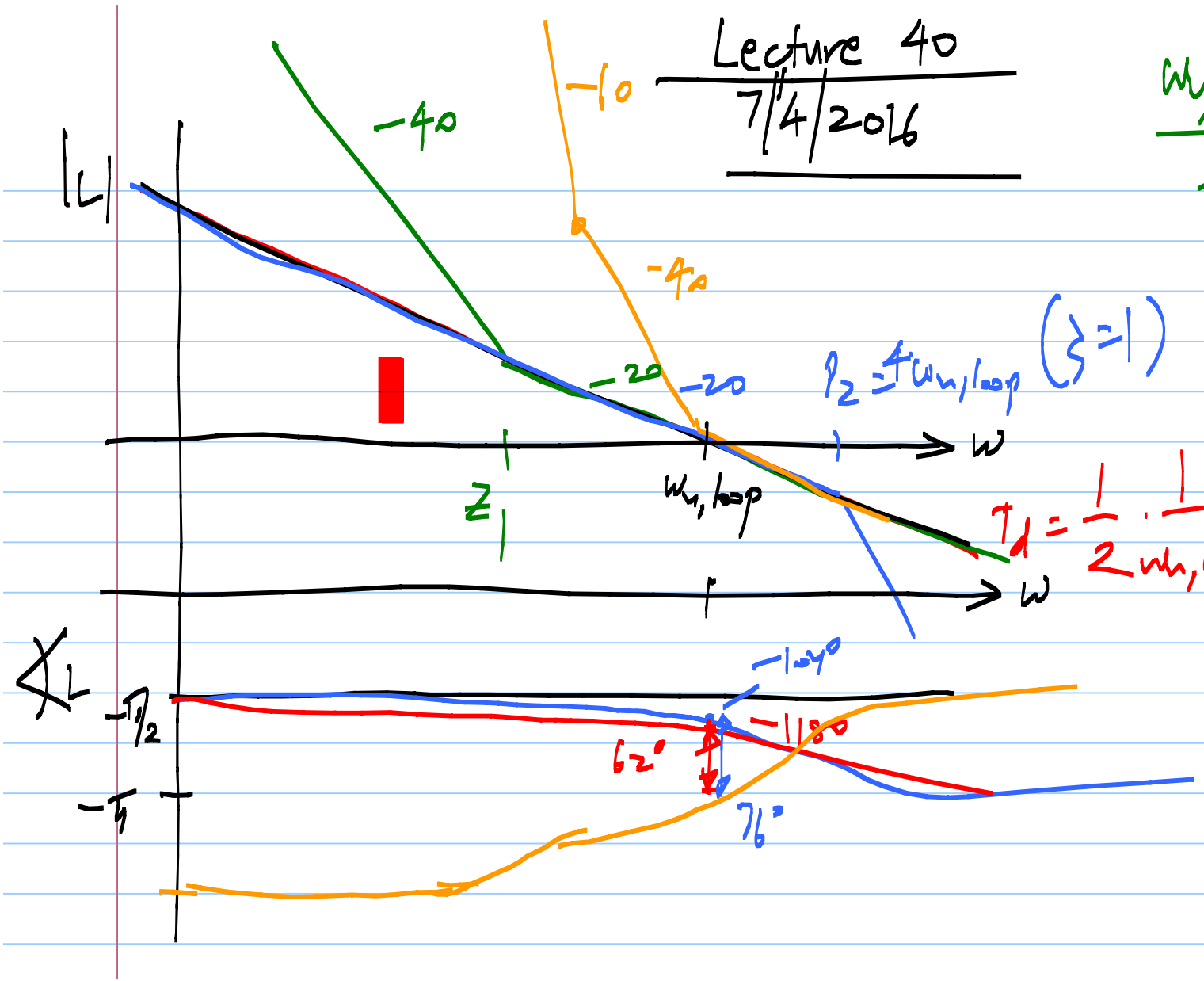
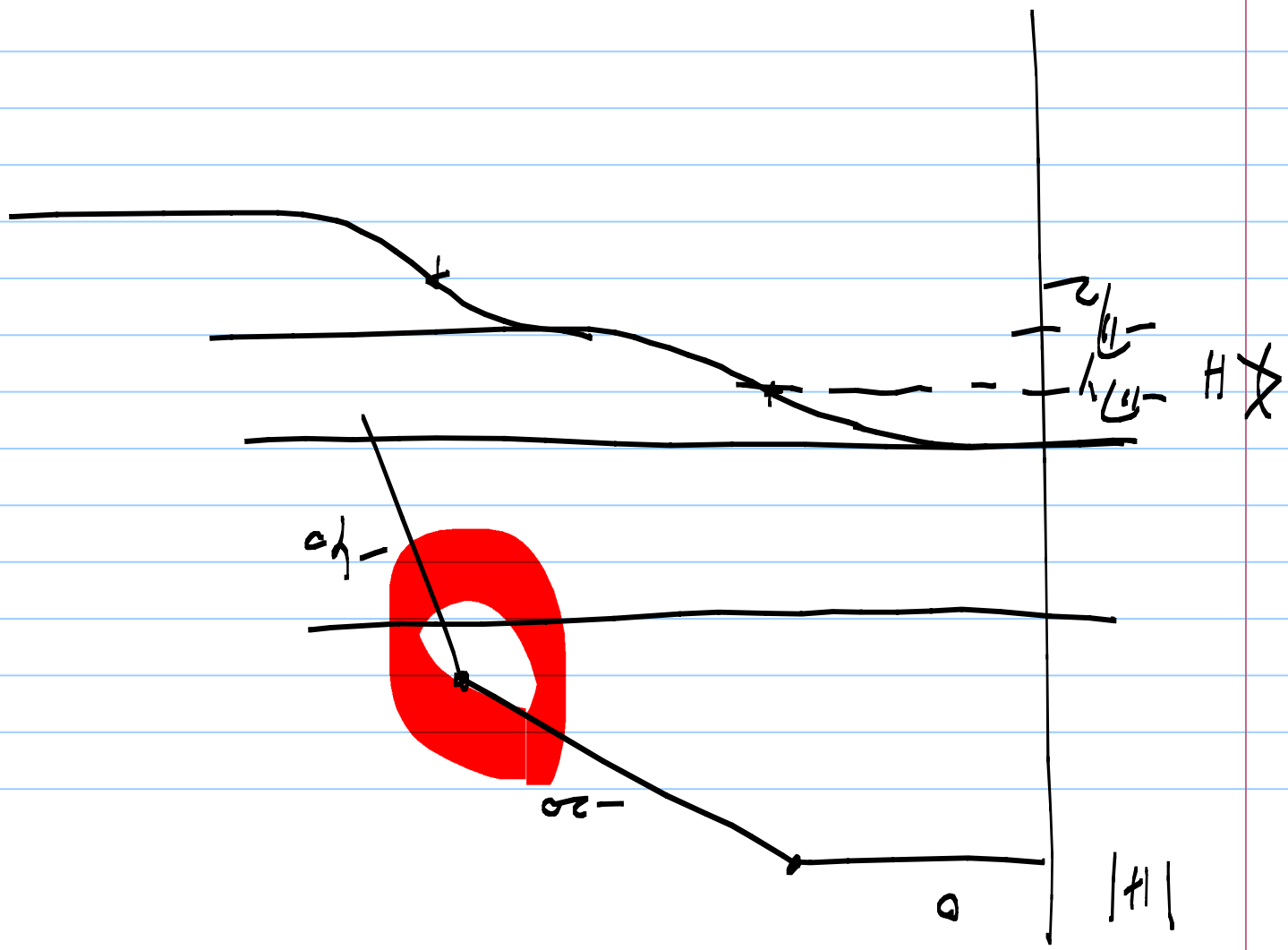
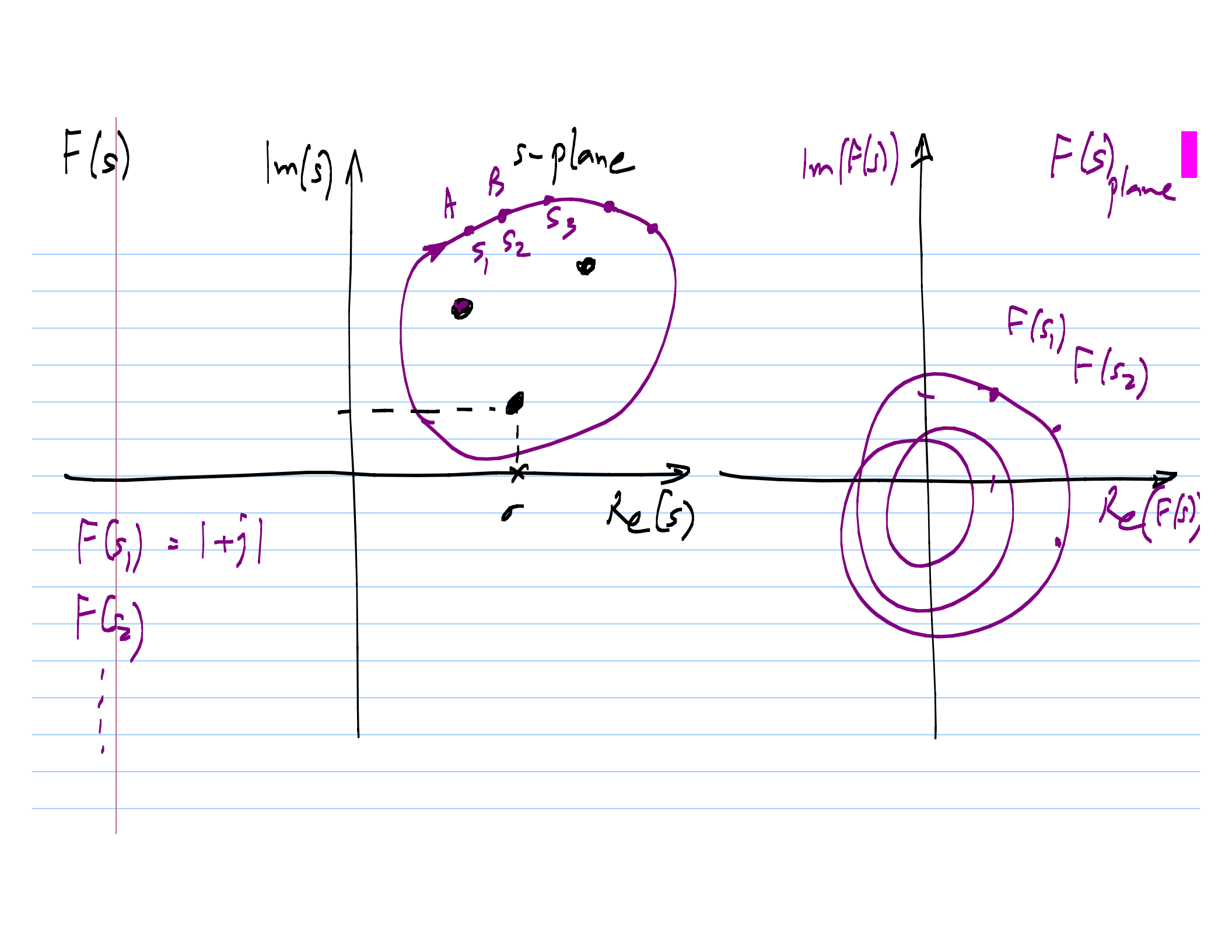
Lecture 40
7/4/2016

$$\frac{\omega_{u,loop}}{s}\left(1+\frac{z_1}{s}\right)$$

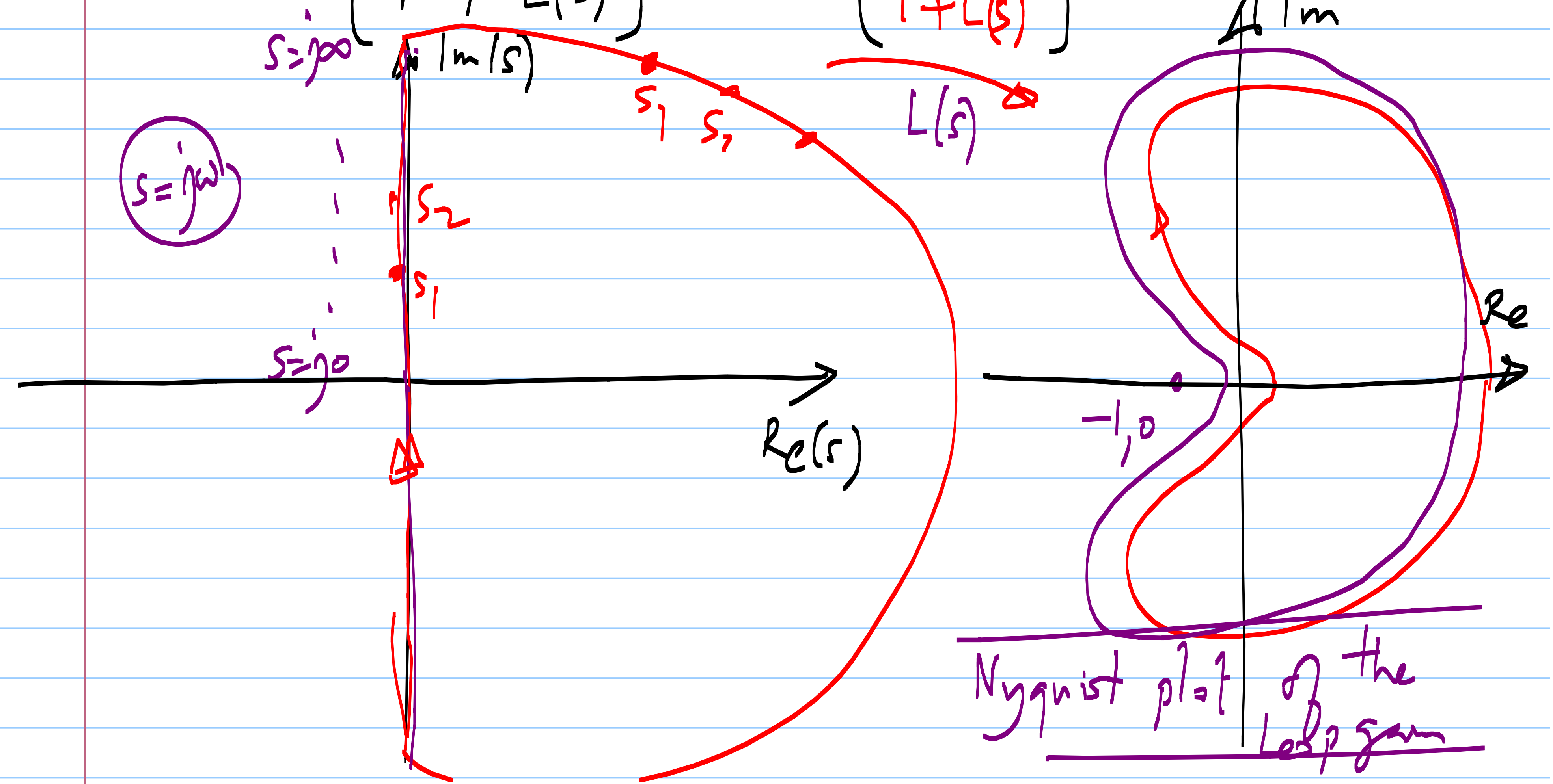




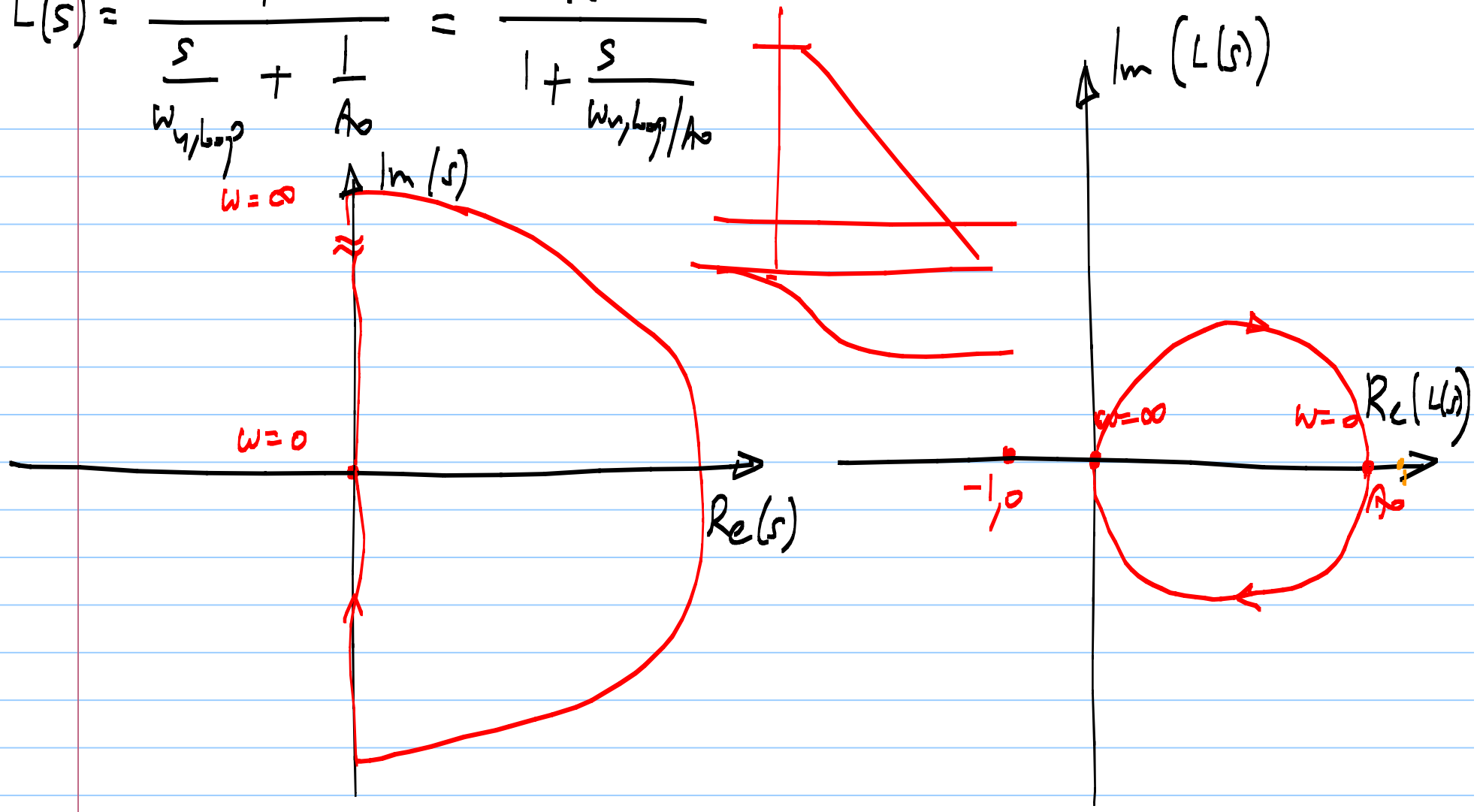

F(s)
Im(s)
s-plane
A
B
s_1
s_2
s_3
Re(s)
$F(s_1) = 1+j1$
$F(s_2)$
Im(F(s))
F(s) plane
$F(s_1)$
$F(s_2)$
Re(F(s))

$$H(s) = (\quad)\,\frac{L(s)}{[1 + L(s)]}$$

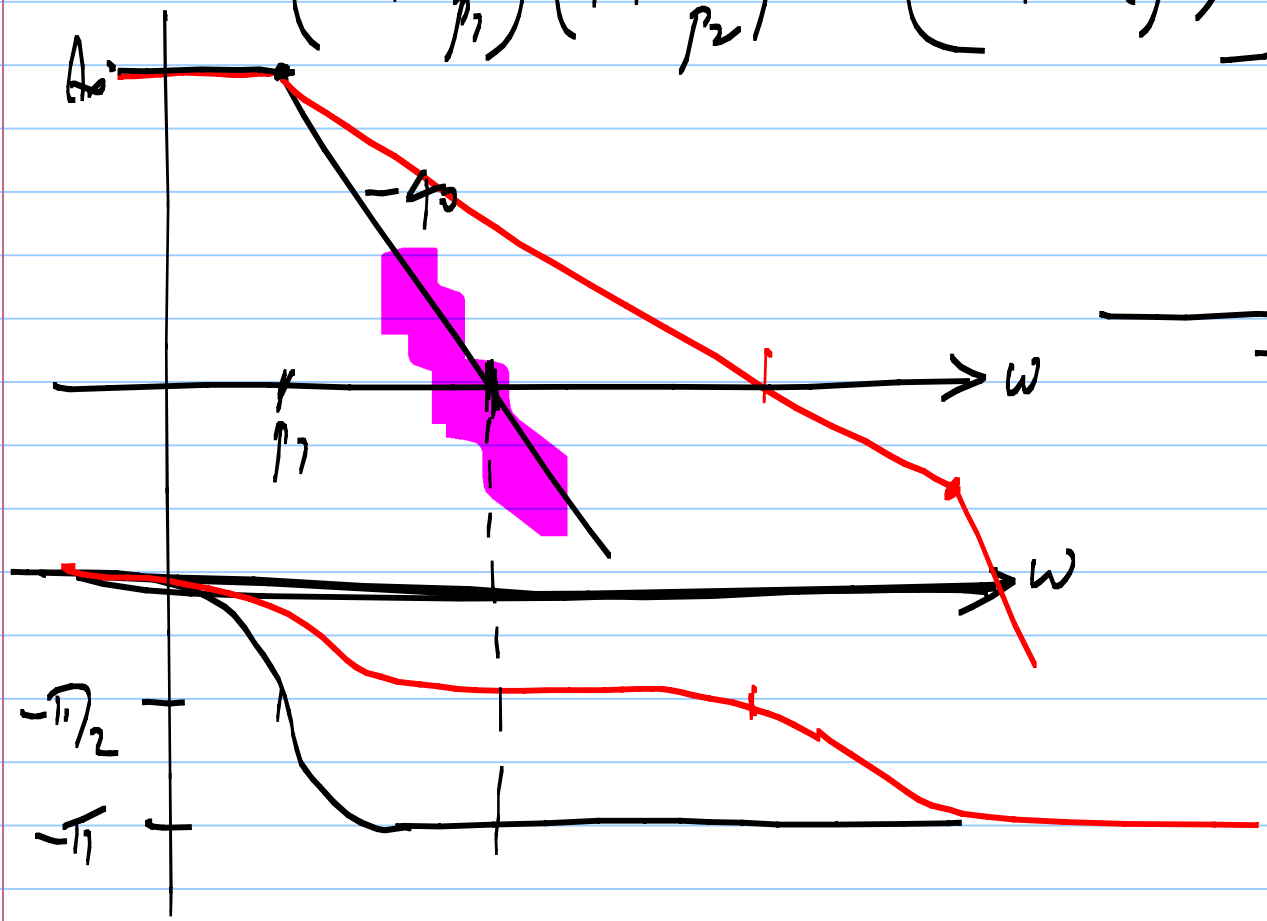
Zeros of $1+L(s)$

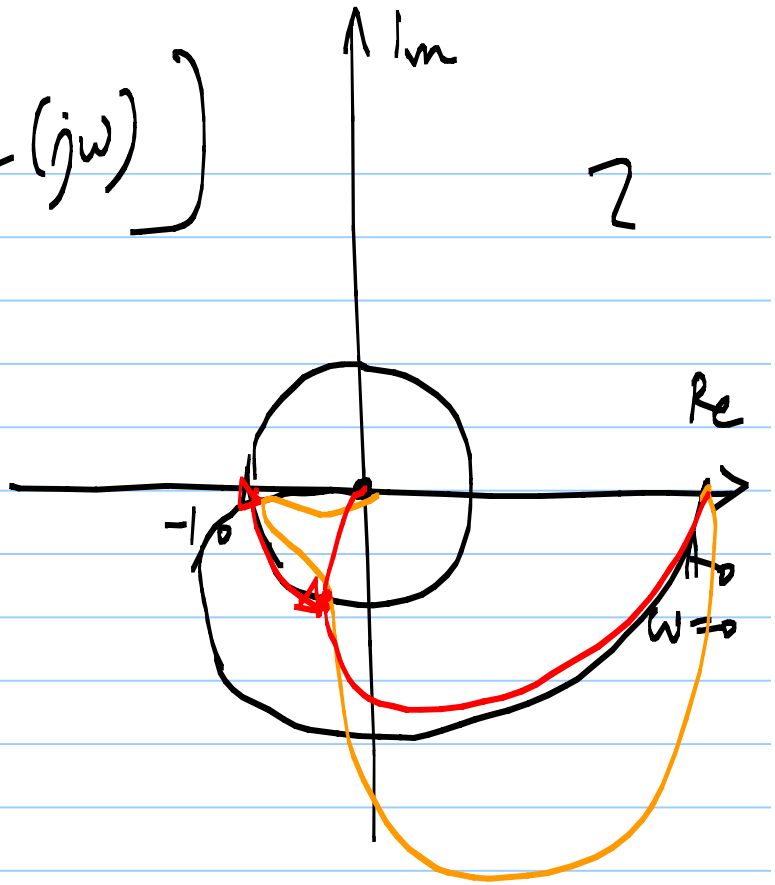


$$L(s) = \frac{1}{\frac{s}{\omega_{u/loop}} + \frac{1}{A_0}} = \frac{A_0}{1 + \frac{s}{\omega_{u,loop}/A_0}}$$



$$L(s) = \frac{A_0}{\left(1+\frac{s}{p_1}\right)\left(1+\frac{s}{p_2}\right)} \quad \text{min} \quad \left[1+L(j\omega)\right]$$





2

$$\frac{A_0 \left(1+\frac{s}{z_1}\right)^2}{\left(1+\frac{s}{p_1}\right)^3}$$

$z_1 \gg p_1$

$z_1 < p_1$