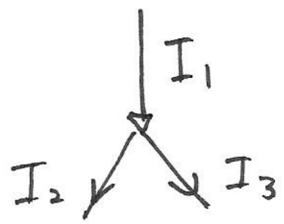
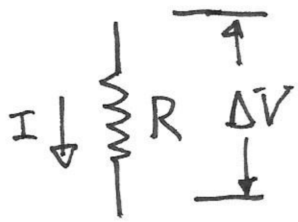
Fill in as we go....

Current at a node



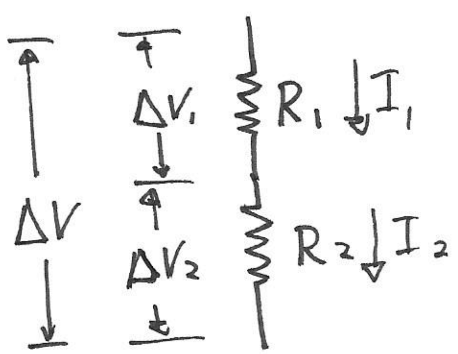
$I_1 =$

Resistor



$\Delta V =$

Resistors in Series



$\Delta V =$

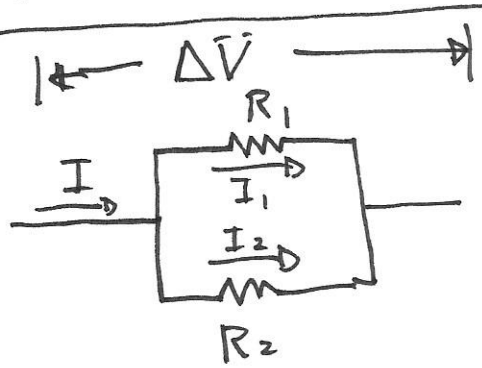
$I_1 =$

$\Delta V =$

$\Delta V = I(\qquad\qquad)$

Equivalent Resistance =

Resistors in Parallel



$I =$

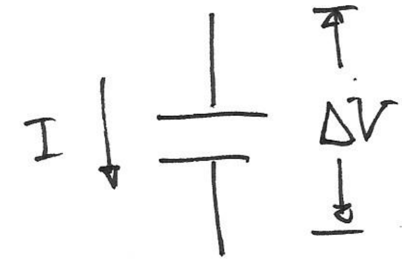
$I =$

$\Delta V =$

Equivalent Resistance =

Applications

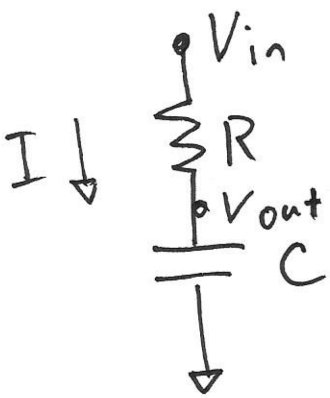
Capacitors



$I =$

-or-

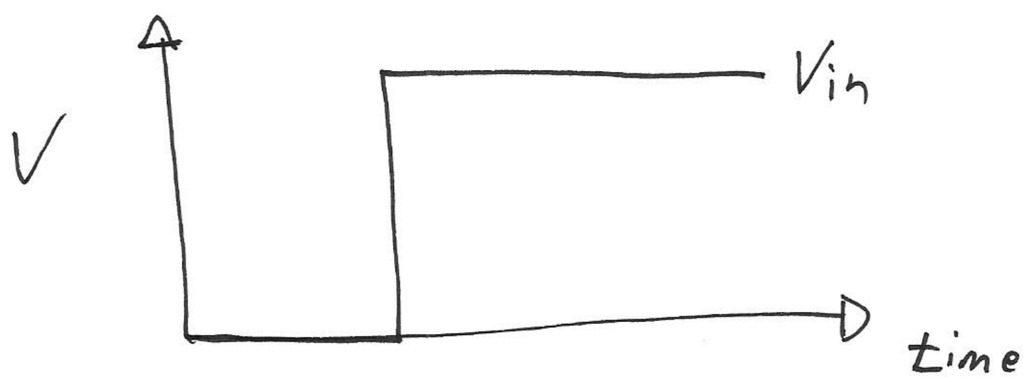
$\int I\,dt =$

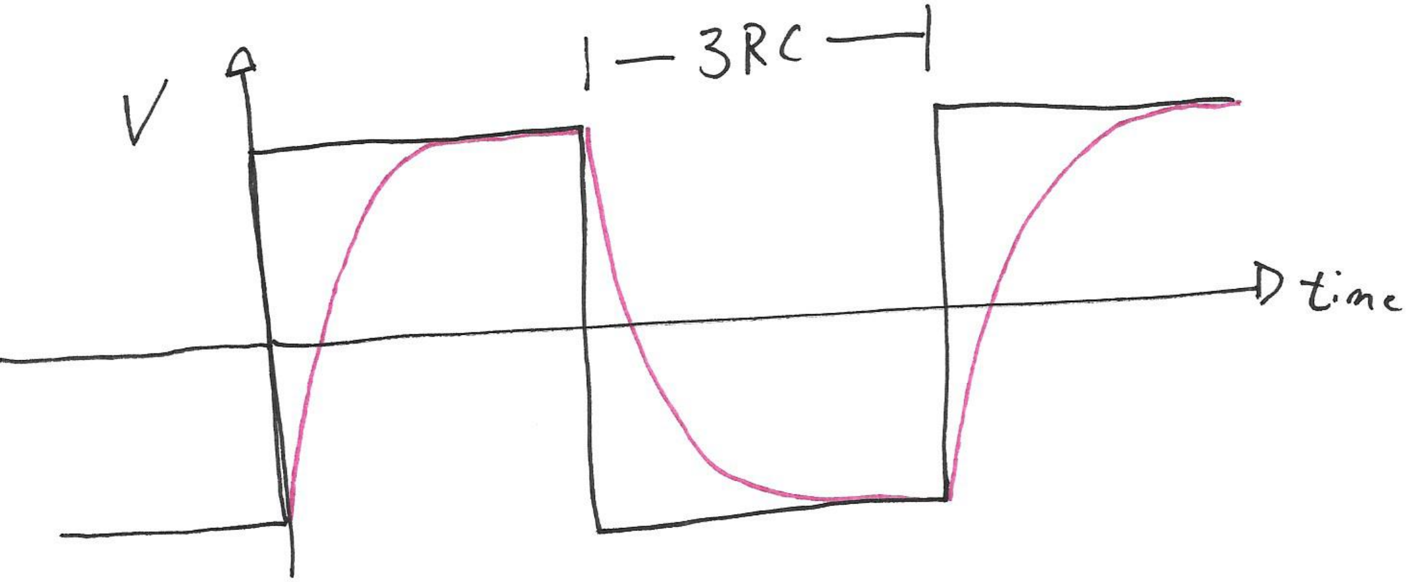


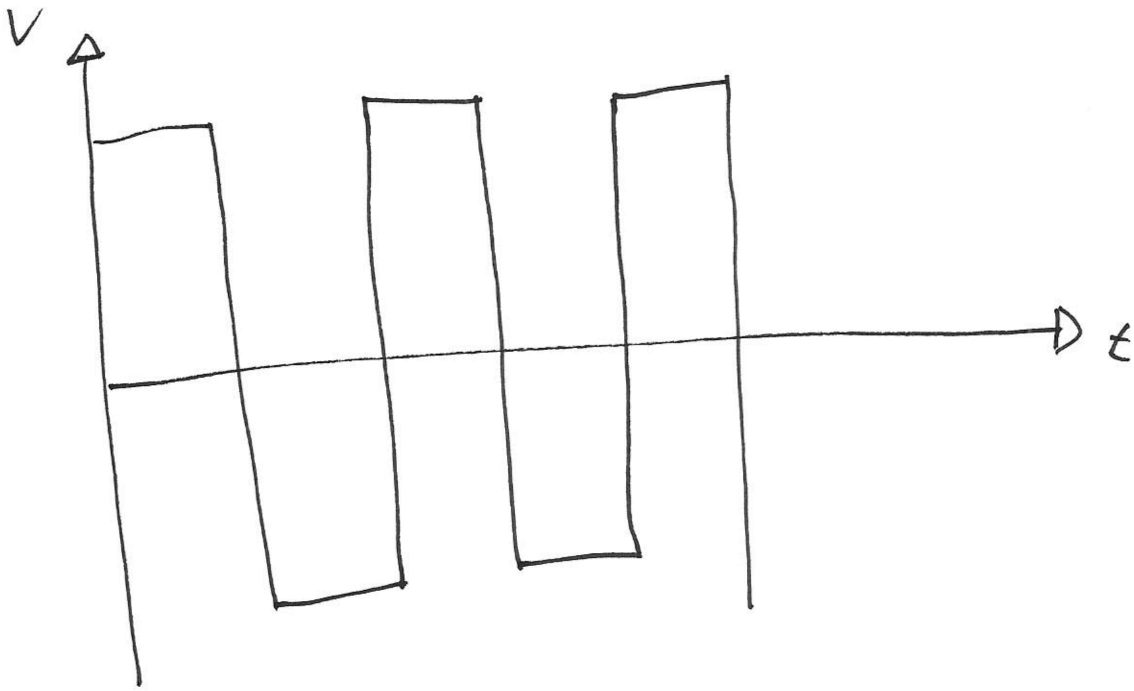
$I = \frac{V_{in} - V_{out}}{R} =$

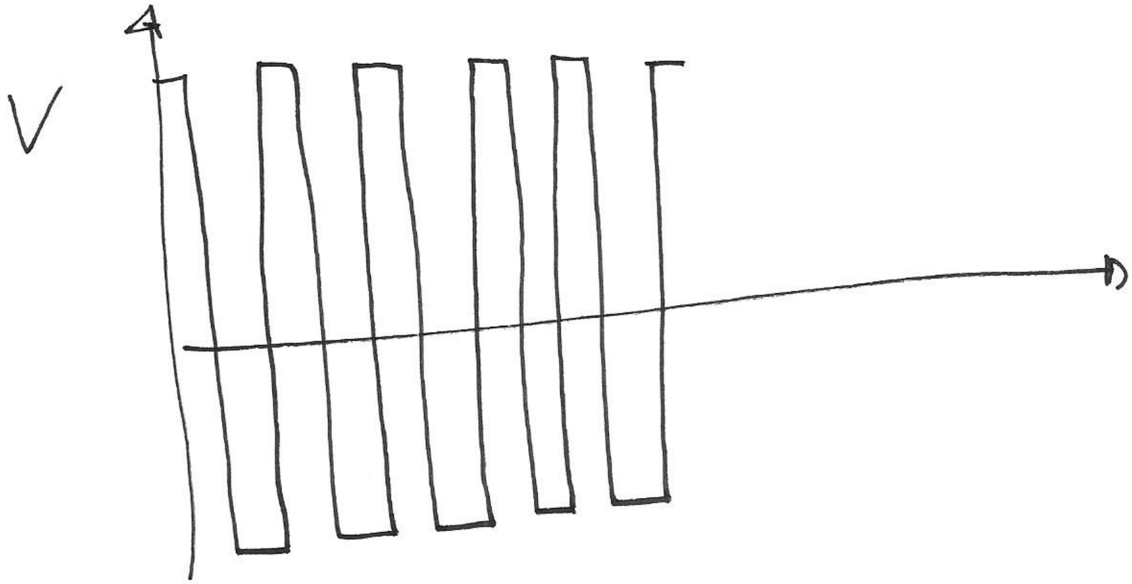
Solutions $V_{out} \sim e$

$\tau =$

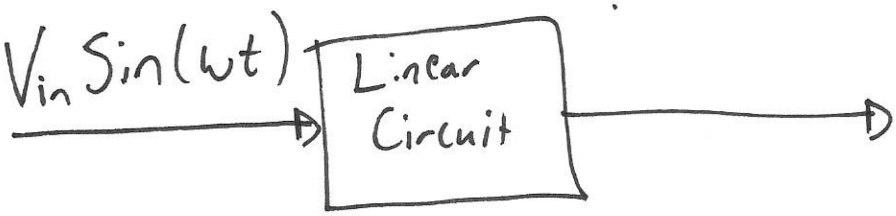


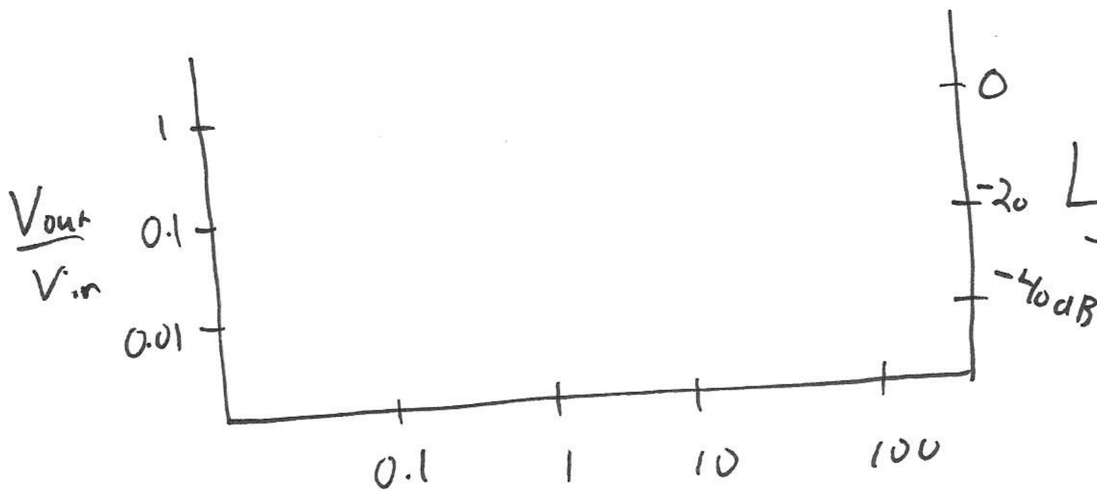

3RC
V
time


V
t

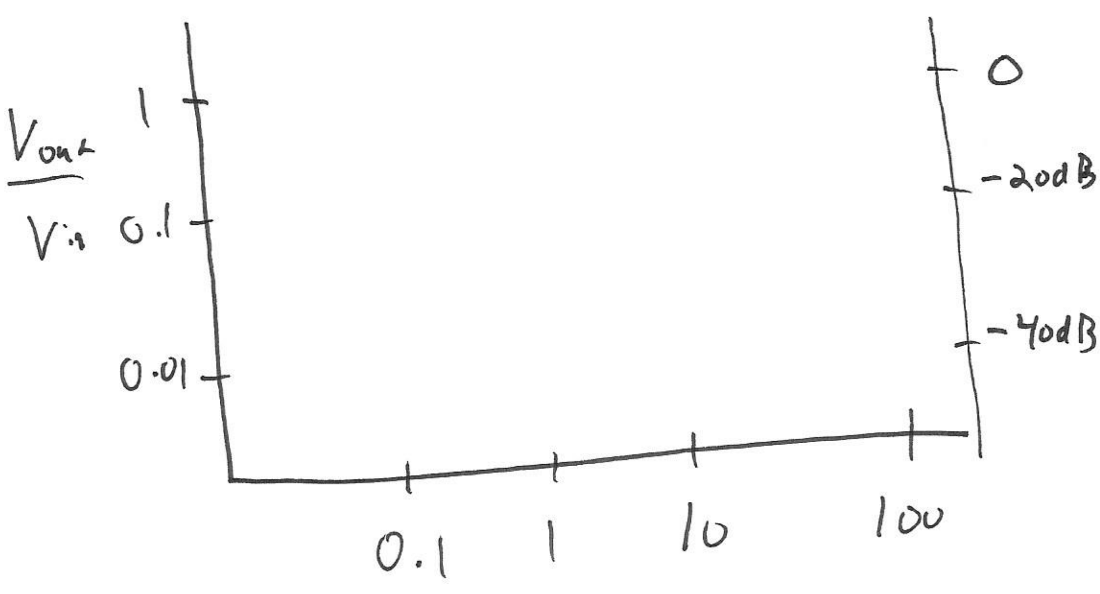

V

Bode Plot





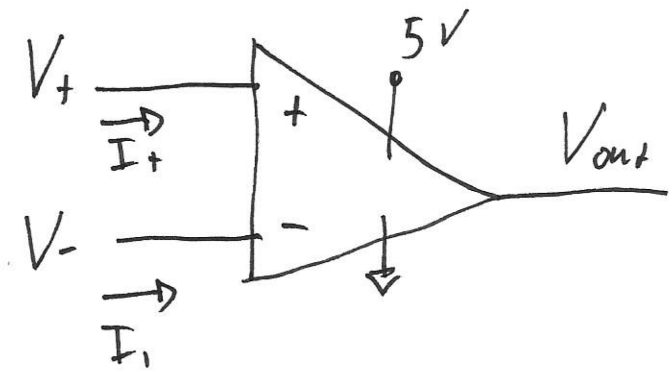
Low Pass



High Pass

Applications of Low Pass / High Pass

Op-Amps



Rules

$I_+ =$

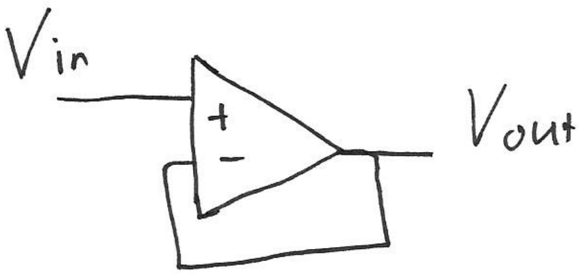
$I_- =$

if $V_+ > V_-$ $V_{out} =$

if $V_+ < V_-$ $V_{out} =$

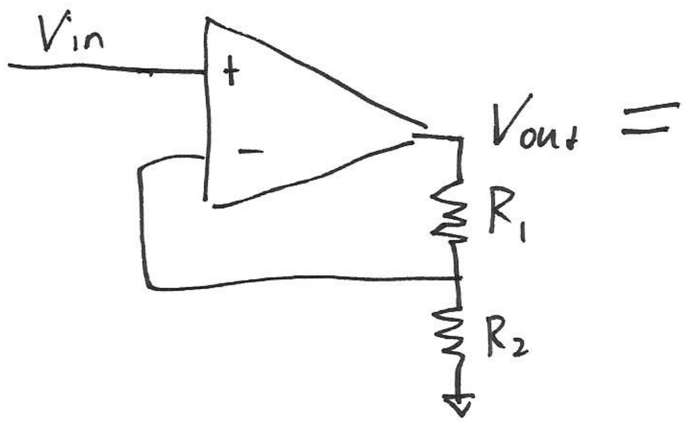
if $0 < V_{out} < 5$ $V_+ =$

for $V_+ = V_-$ we need ______ feedback



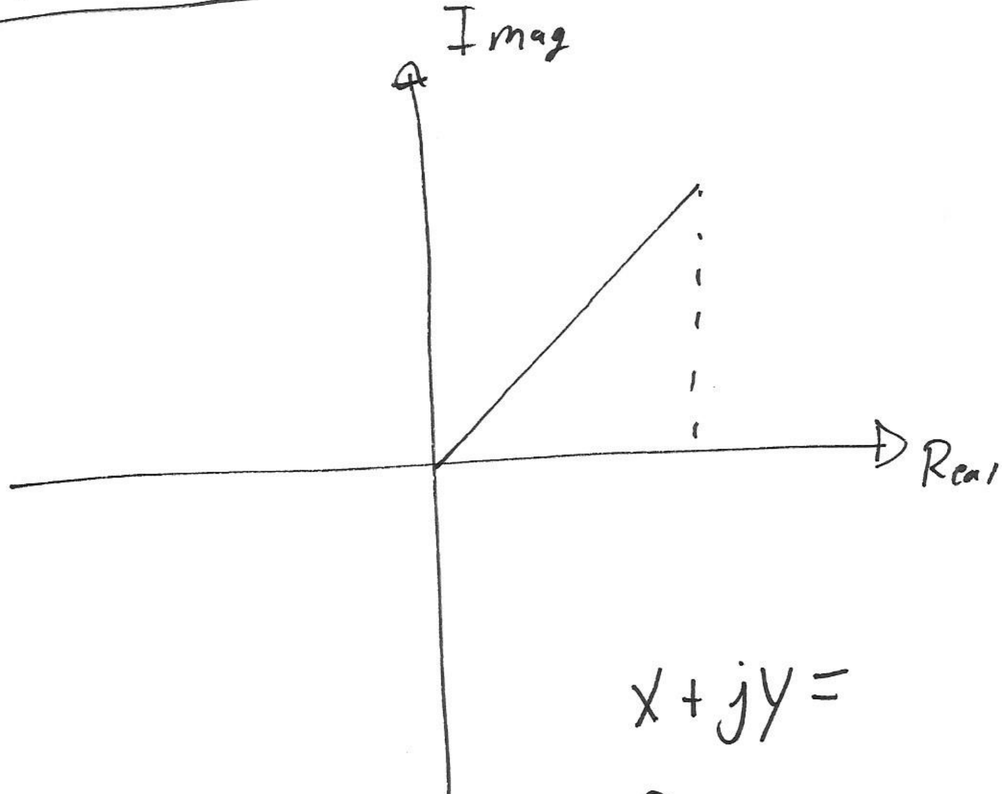
V_{out} =

this circuit is useful, because



this circuit is an

Complex #'s



$x + jy =$

$r =$

$\theta =$

Complex impedance

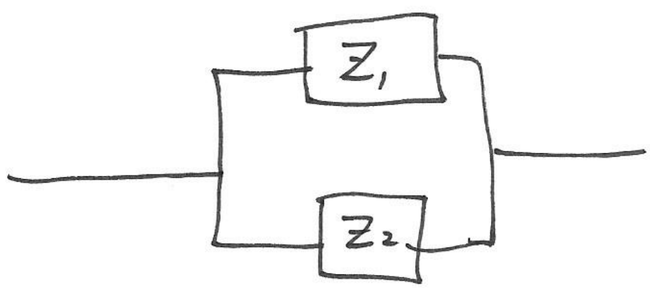
Resistor $Z =$

Capacitor $Z =$

Impedance in Series

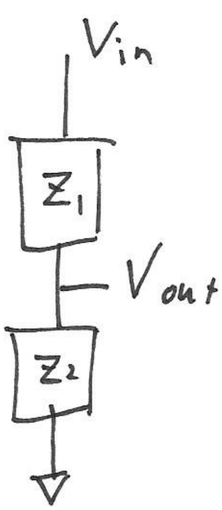
$Z_{eq} =$

Impedance in Parallel



$Z_{eq} =$

LowPass/High Pass



$$\frac{V_{out}}{V_{in}} =$$

if $Z_1 = R$ $Z_2 = \frac{1}{j\omega C}$ $\frac{V_{out}}{V_{in}} =$

if $Z_1 = \frac{1}{j\omega C}$ $Z_2 = R$ $\frac{V_{out}}{V_{in}} =$