

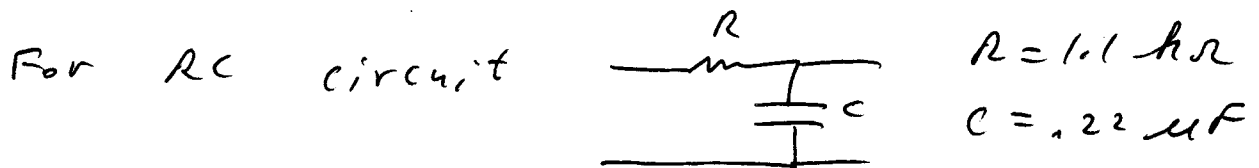
Bode Plots of Frequency Response

Use logarithmic scale on frequency axis.

$$\text{Decibel (dB)} = 10 \cdot \log_{10} \left(\frac{\text{Output Power}}{\text{Input Power}} \right)$$

How do you get power gain
from amplitude gain $|H(\omega)|$?

\Rightarrow _____

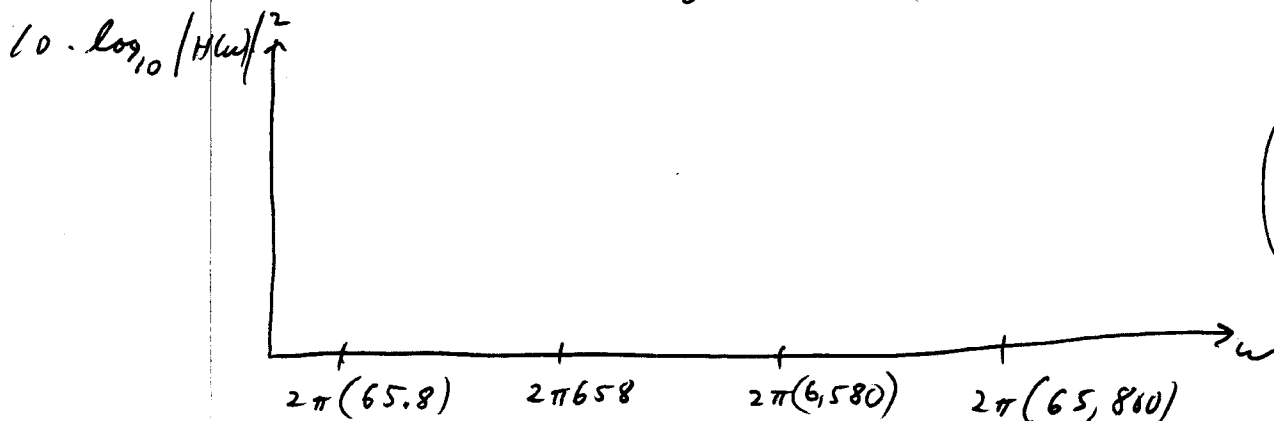


$$10 \log_{10} |H(\omega)|^2 = 10 \log_{10} \frac{1}{1 + (\omega RC)^2}$$

$$= 10 \cdot \log_{10} (1) - 10 \cdot \log_{10} (1 + (\omega RC)^2)$$

$$= 0 - 10 \cdot \log_{10} [1 + (\omega RC)^2]^2$$

$$= -10 \cdot \log_{10} \left[1 + \left(\frac{\omega}{2\pi 658} \right)^2 \right]^2 \text{ for } R, C \text{ values.}$$



(Do phase response also)