

$$dB = 20 \log_{10} \left(\frac{A_1}{A_2} \right) = 10 \log_{10} \left(\frac{P_1}{P_2} \right)$$

$$\text{Power}(a \cos(2\pi ft)) = \frac{a^2}{2}$$

$$\text{Power}(dB) = 10 \log_{10} \left(\frac{a^2}{2} \right) = 20 \log_{10} \left(\frac{a}{\sqrt{2}} \right)$$

RMS amplitude

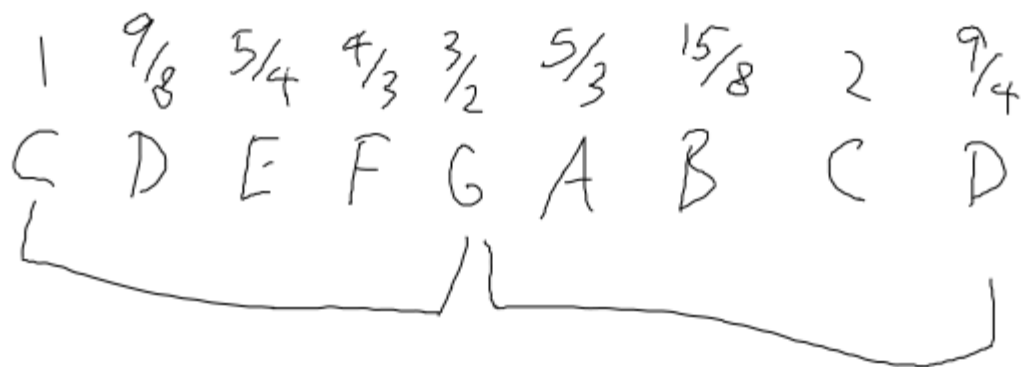
$$20 \log_{10}(2) \approx 6dB$$

$$I_{\text{oct}} = \log_2 \left(\frac{f_1}{f_2} \right)$$

$$\log_2 \left(\frac{8}{2} \right) \approx \frac{7}{12}$$

$$I_{\text{halfsteps}} = 12 I_{\text{oct}}$$

$$\log_2 \left(\frac{2}{3} \right) \approx \frac{12}{7}$$



$$\frac{P_1}{P_2} = \left(\frac{a_1}{a_2} \right)^2$$

$$\frac{a_{1/2}^2}{a_{2/2}^2} = \frac{a_1^2}{a_2^2}$$