

use  $\cos(x) = \frac{e^{jx} + e^{-jx}}{2}$

$$3\cos(800\pi t - \pi/3) + 2\cos(800\pi t - \pi/4)$$

$$3 \left( \frac{e^{j(800\pi t - \pi/3)} + e^{-j(800\pi t - \pi/3)}}{2} \right) + 2 \left( \frac{e^{j(800\pi t - \pi/4)} + e^{-j(800\pi t - \pi/4)}}{2} \right)$$

$$\frac{3}{2} \left( \underset{\uparrow}{e^{-j\pi/3}} \underset{\uparrow}{e^{j800\pi t}} + e^{j\pi/3} e^{-j800\pi t} \right) + 2 \left( \underset{\uparrow}{e^{-j\pi/4}} \underset{\uparrow}{e^{j800\pi t}} + e^{j\pi/4} e^{-j800\pi t} \right)$$

~~freq are all the same~~

all  $\omega_0$  are  $800\pi \rightarrow \boxed{f = 400}$

Add all amplitudes  $\rightarrow \frac{3}{2} + \frac{3}{2} + 1 + 1 = \boxed{5}$