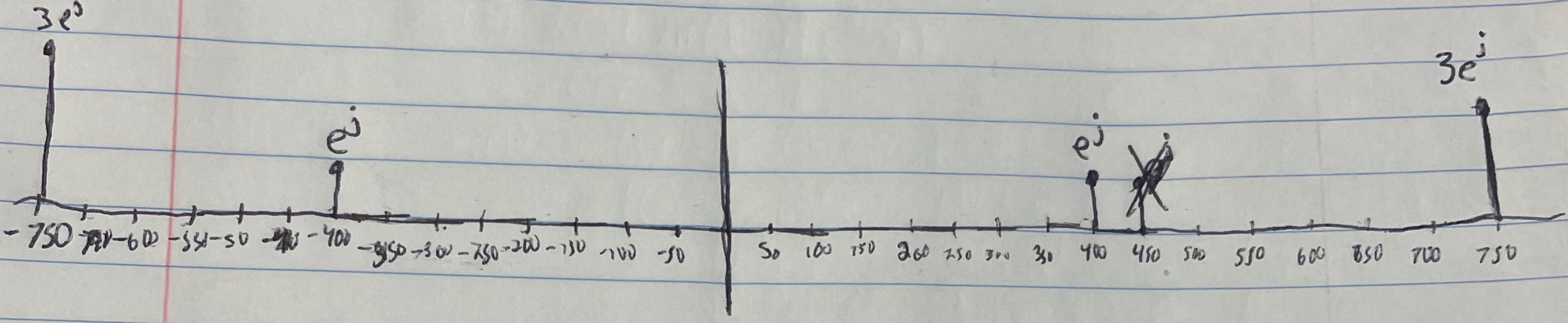
1. $s(t) = 6\cos(1500\pi t - \frac{\pi}{4}) + 2\cos(800\pi t + \frac{\pi}{3})$

$$3\cancel{6}\left(\frac{e^{j(1500\pi t-\frac{\pi}{4})}+e^{-j(1500\pi t-\frac{\pi}{4})}}{\cancel{2}}\right)+\cancel{2}\left(\frac{e^{j(800\pi t+\frac{\pi}{3})}+e^{-j(800\pi t+\frac{\pi}{3})}}{\cancel{2}}\right)$$

$$s(t) = \underset{\uparrow}{3e^{j(2\pi(750)t-\frac{\pi}{4})}} + \underset{\uparrow}{3e^{-j(2\pi(-750)t-\frac{\pi}{4})}} + \underset{\uparrow}{e^{j(2\pi(-400)t+\frac{\pi}{3}}} + \underset{\uparrow}{e^{-j(2\pi(-400)t+\frac{\pi}{3}}}$$



2. I am able to solve this pictorally, not yet conceptually...

3. Since I do not know T_0, I am unable to solve this...