PROBLEM:

Solve the following equation for M and ψ. Obtain *all* possible answers. Use the phasor method, and provide a geometric diagram to explain the answer.

$$5\cos(\omega_0 t) - 4\cos(\omega_0 t + \psi) = M\cos(\omega_0 t + \pi/4)$$

HINT: describe the figure in the z-plane given by the set $\{z : z = 5 - 4e^{j\psi}\}$ where $0 \le \psi \le 2\pi$.