

PROBLEM:

The Euler and inverse Euler formulas can often simplify a messy complex formula.

- State the inverse Euler formula for cosine.
- Use Euler's formula(s) to simplify the following complex-valued sum:

$$z = e^{j\pi/3} + 2e^{j5\pi/4} + e^{-j\pi/3} - 2e^{-j5\pi/4}$$

Give the answer in polar form.