Suppose $z := 3 + 4i$ and $w := 2 + i$. Find each of the following:

1. $|z|$ and $|w|$.

2. The polar forms $z = R e^{i\theta}$ and $w = \rho e^{i\phi}$.

3. If $z/w = \alpha + \beta i$ with $\alpha$ and $\beta$ real, find $\alpha$ and $\beta$.

4. If $z/w = r e^{i\delta}$ with $r$ and $\delta$ real, find $r$ and $\delta$. 