1. Find the modulus of $\dfrac{(3 - 4i)^{10}}{(2 + i)^8}$.

2. Use Euler's formula to express $\cos(5\theta)$ in terms of $\cos(\theta)$ and $\sin(\theta)$.

3. Let w be an nth root of unity not equal to 1. Show that $1 + w + w^2 + \cdots + w^{n-1} = 0$.

4. Find all fifth roots of $z = -2 + 3i$.

5. Textbook exercise 1.12.

6. Textbook exercise 1.24.

7. Show that for every $z \in C[0, 2]$, $\dfrac{1}{|z^2 - 1|} \leq \dfrac{1}{3}$.

8. Textbook exercises 1.27 (e)(f)

9. Textbook exercises 1.28 (e)(f)

10. Show that if $A \subseteq B$ and B is closed, then $\partial A \subseteq B$.

11. Show that if $A \subseteq B$ and A is open then A is contained in the interior of B.