

Worksheet 3

Due: Thursday, September 4

Remember, where appropriate, explain how you got your answers! No calculators are allowed or needed.

1. Show that $\cos^2 \theta = \frac{1}{2}(1 + \cos 2\theta)$ using complex exponential form.
2. Compute $(\sqrt{3} + i)^{12}$. Give your answer in rectangular form.
3. Suppose we rotate the complex number $1 - 2i$ by $\pi/3$. What is the resulting complex number?