General Roots

1. There are three cube roots of 8.
   a) Find an equation that gives the arguments of all cube roots of 8.
   b) Plot the cube roots of 8 on the Argand diagram.
2. There are three cube roots of i.
   a) Find an equation that gives the arguments of all cube roots of i.
   b) Plot the cube roots of i on the Argand diagram.

General Roots

3. The complex number $e^{i\left(\frac{\pi}{3}\right)}$ has three cube roots. Find each of the roots and express your answers in Euler form. Plot your answers on the Argand diagram.

4. The complex number $8e^{i\left(\frac{\pi}{3}\right)}$ has three cube roots. Find each of the roots and express your answers in Euler form. Plot your answers on the Argand diagram.

5. The complex number $1 + 2i$ has five fifth roots. Find each of the roots and express your answers in Cartesian form, with values accurate to 3 decimal places. Plot your answers on the Argand diagram.