Quiz 2

Problem 1 Find the norm and polar angle of the complex number

$$z = (-3 + \sqrt{3}i)^3$$

Problem 2 Sketch the following set on the complex plane. Determine the following topological properties: is it open? is it closed? is it bounded? is it compact? it is connected?

$$\{z \in \mathbb{C} | |z + 1| + |z - 1| < 3\}$$