1. Find all \( w \in \mathbb{C} \) such that \( w^2 + 3w + (3 - i) = 0 \). Express your solution(s) in the form \( w = a + bi \) where \( a, b \in \mathbb{R} \).

2. Consider the complex numbers \( z := -3 - i\sqrt{3} \) and \( w := -1 + i\sqrt{3} \).
   (a) Find \( zw \) and \( z/w \). Give your answer in the form \( x + iy \) where \( x, y \in \mathbb{R} \).
   (b) Put \( z \) and \( w \) into polar form \( re^{i\theta} = r(\cos(\theta) + \sin(\theta)i) \). Find \( zw \) and \( z/w \) using the polar form and verify that you get the same answer as in part (a).

3. Find the orthogonal distance between the following skew lines in \( \mathbb{R}^3 \). The first line passes through the points \( O := (0, 0, 0) \) and \( P := (-1, -1, 1) \), and the second line passes through the points \( Q := (0, -2, 0) \) and \( R := (2, 0, 5) \).