

(c) Use the triangle inequality to show that $|z_1 - z_2| < 3|z_1|$.

$$\begin{aligned} |z_1 - z_2| &< |z_1| + |z_2| && [< \text{ rather than } \leq \text{ since } 0, z_1, z_2 \text{ are not collinear}] \\ &= |z_1| + 2|z_2| \\ &= 3|z_1| \end{aligned}$$

(2 marks)