MATH 338 – Complex Analysis I

Quiz 2

1. Let f be an entire function such that $f(z) = f(z+\sqrt{2}) = f(z+i\sqrt{5})$ for all $z \in \mathbb{C}$. Show that f is constant.

2. Let $f(z) = \frac{1}{z^2-1}$ for $z \in \mathbb{C} \setminus \{-1, 1\}$. Can f have an anti-derivative on $\mathbb{C} \setminus \{-1, 1\}$? Explain your answer.