

# ATTEMPTED

## 1 Question 1

$a \in \mathbb{R}$ ,  $b \in \mathbb{R}$  then by the mapping  $g$ ,  $g(a) \in \mathbb{R}$  and  $g(b) \in \mathbb{R}$ . Suppose  $a, b \in \mathbb{N}$  and  $\mathbb{N} \subset \mathbb{R}$ , then by the principle of recursive definition there exists a function  $\phi$  such that  $\phi(a + b) = \phi(a) + \phi(b)$  and  $\phi(ab) = \phi(a)\phi(b)$ .

## 2 Question 2

### 3 Question 3