PAMO Stream Test 2

June Camp 2017

Time: $4\frac{1}{2}$ hours

1. Let $\mathbb{Z}$ and $\mathbb{Q}$ be the sets of itnegers and rationals respectively.

   (a) Does there exist a partition of $\mathbb{Z}$ into three non-empty subsets A, B, C such that the sets $A + B$, $B + C$ and $C + A$ are disjoint?

   (b) Does there exist a partition of $\mathbb{Q}$ into three non-empty subsets A, B, C such that the sets $A + B$, $B + C$ and $C + A$ are disjoint?

2.

3.