Q1i: We know that an ideal of $\mathbb{Z}/13\mathbb{Z}$ must be an additive subgroup of $(\mathbb{Z}/13\mathbb{Z}, +)$. We know from basic group theory results that we only have the trivial subgroups since this group is of prime order. Furthermore since multiplication is commutative in this ring we have that both $\mathbb{Z}/13\mathbb{Z}$ and $\{1\}$ are ideals.

Q1ii: In a similar flavour to Q1i, it is sufficient to find all the subgroups of $\mathbb{Z}/12\mathbb{Z}$. We have that all the ideals of $\mathbb{Z}/12\mathbb{Z}$ are

$$(0), (1), (2), (3), (4), (6).$$