Name:

Problem 1: *State the Division Algorithm theorem.*

Solution: Given integers a and b with $b > 0$, there exist unique integers q and r satisfying

$$a = qb + r \quad \text{and} \quad 0 \leq r < b.$$

It is not necessary to add that the integer q is called the *quotient* and the integer r is called the *remainder* in the division of a by b.