The delta set of a numerical semigroup is a factorization invariant that measures the complexity of the sets of lengths of its elements. We study the following two problems: Which finite sets occur as delta sets? If we restrict to semigroups with minimal generating set of size e, which finite sets occur as delta sets?

It is known that the minimum element of a delta set must be equal to the gcd of its elements. We show that any two-element set \{d, td\} occurs as a delta set. We also show that if the two-element set \{d, td\} occurs as the delta set of a numerical semigroup with three minimal generators, then \( t = 2 \). (Received September 15, 2014)