

1086-VN-1720 **Noah Streib*** (noah.streib@nist.gov). *Dimension-Preserving Contractions and a Finite List of 3-Irreducible Posets.*

We introduce two new operations on partially ordered sets (posets). These operations can be used to transform a poset P into a simpler poset Q such that the dimension is unchanged as a result of the transformation. We call these operations *dimension-preserving contractions*. As an application, these contractions can be used to shrink the well-known infinite list of 3-irreducible posets to a list of 3-irreducible, non-contractible posets of size seventeen (up to duality). (Received September 24, 2012)