1.77: Order

If *G* is a group consisting of a finite number of elements, this number of elements is the **order** of *G*. For example, the point group `m3m` has order 48.

For an element *g* of a (not necessarily finite) group *G*, the **order** of *g* is the smallest integer *n* such that g^n is the identity element of *G*. If no such integer exists, *g* is of **infinite order**. For example, the rotoinversion `3` has order 6 and a translation has infinite order. An element of order 2 is called an **involution**.