MA111 — The Mathematics of Symmetry
Properties of the Four Motions

Reflections
1. A reflection is completely determined by _________________.
2. A reflection is completely determined by _________________.
3. A reflection has ______________ fixed point(s), located _________________.
4. Is a reflection a proper or improper motion?
5. ________________ is equivalent to the identity motion.

Rotations
1. A rotation is completely determined by _________________.
2. A rotation has ________ fixed point(s), located _________________.
3. Is a rotation a proper or improper motion?
4. ________________ is equivalent to the identity motion.

Translations
1. A translation is completely determined by _________________.
2. A translation has __________ fixed point(s), located _________________.
3. Is a translation a proper or improper motion?
4. ________________ is equivalent to the identity motion.

Glide Reflections
1. A glide reflection is completely determined by _________________.
2. A glide reflection has __________ fixed point(s), located _________________.
3. Is a glide reflection a proper or improper motion?
4. ________________ is equivalent to the identity motion.