Lesson 3: Grid Moves

Let's transform some figures on grids.

3.1: Notice and Wonder: The Isometric Grid

What do you notice? What do you wonder?
3.2: Transformation Information

Your teacher will give you tracing paper to carry out the moves specified. Use $A'$, $B'$, $C'$, and $D'$ to indicate vertices in the new figure that correspond to the points $A$, $B$, $C$, and $D$ in the original figure.

1. In Figure 1, translate triangle $ABC$ so that $A$ goes to $A'$.

2. In Figure 2, translate triangle $ABC$ so that $C$ goes to $C'$.

3. In Figure 3, rotate triangle $ABC$ 90° counterclockwise using center $O$.

4. In Figure 4, reflect triangle $ABC$ using line $\ell$. 
5. In Figure 5, rotate quadrilateral $ABCD$ 60° counterclockwise using center $B$.

6. In Figure 6, rotate quadrilateral $ABCD$ 60° clockwise using center $C$.

7. In Figure 7, reflect quadrilateral $ABCD$ using line $\ell$.

8. In Figure 8, translate quadrilateral $ABCD$ so that $A$ goes to $C$.

**Are you ready for more?**

The effects of each move can be “undone” by using another move. For example, to undo the effect of translating 3 units to the right, we could translate 3 units to the left. What move undoes each of the following moves?

1. Translate 3 units up

2. Translate 1 unit up and 1 unit to the left

3. Rotate 30 degrees clockwise around a point $P$

4. Reflect across a line $\ell$