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| **Exploring Symmetry and Congruence** |
| Verifies symmetry of two shapes by reflecting or rotating one shape onto another.A red triangle shapes on a white background  Description automatically generated“I reflected one trapezoid in a vertical line of reflection so that it mapped onto the other trapezoid exactly. So, the two shapes are symmetrical.” | Describes the symmetry between two shapes as reflection symmetry or rotation symmetry, or a combination of two transformations.A black rectangles with a white background  Description automatically generated“These two symmetrical shapes are related by a combination of transformations. I could reflect the shape on the left in a vertical line, then rotate the image counterclockwise until it has the same orientation as the other shape.” | Demonstrates congruence between two shapes in any orientation by superimposing.“The two shapes are congruent even though they have different orientations. I traced Shape B and placed the tracing on Shape D and they matched exactly. They have the same size and shape.” | Understands that shapes related by symmetry are congruent to each other.**A black and white image of a hexagon  Description automatically generated**“These two shapes are related by rotation symmetry. I can map one shape onto the other through rotation so that they match exactly. This means the shapes are congruent as they have the same size and shape.” |
| **Observations/Documentation** |
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| **Location and Transformations in the Cartesian Plane** |
| Reads and interprets the Cartesian plane. A graphing of a quadratic function  Description automatically generated“The *x*-axis looks like a horizontal number line and the *y*-axis looks like a vertical number line, and the two number lines intersect.” | Locates points on a Cartesian plane using ordered pairs.A graphing of a quadratic function  Description automatically generated“Point A is at (4, 5), Point B is at (8, -3), Point C is at (-2, -7), and Point D is at (-3, 2).” | Uses coordinates to plot points on a Cartesian plane.A graph of a quadratic function  Description automatically generated“I plotted Point E(5, 0) and Point F(0, −4).” | Models and describes the location of the vertices of a polygon in the Cartesian plane using coordinates.A graph of a quadrilateral with lines and dots  Description automatically generated“I drew a parallelogram. Its vertices are at E(1, 6), F(3, 2), G(−2, −3), and H(−4, 1).” |
| **Observations/Documentation** |
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| **Location and Transformations in the Cartesian Plane (cont’d)** |
| Describes and performs transformations of polygons on a Cartesian plane. A graph of a triangle with lines and points  Description automatically generated“I translated △ABC right 3 squares and down 5 squares to get △A’B’C’.” | Identifies transformation used to move a polygon on a Cartesian plane. A graph of a graph of a rectangle and a rectangle  Description automatically generated“The shape was rotated 90° counterclockwise about T to get the image. The shape and its image are congruent but have different orientations.” | Relates the coordinates of a polygon and its image after a translation, reflection, or rotation.  A graph of a graph of triangles and a picture of a triangle  Description automatically generated with medium confidence“After a reflection in the *y*-axis, the *x*-coordinates of the vertices change sign, and the *y*-coordinates stay the same.” | Flexibly visualizes and predicts where the image of a polygon will be after a transformation. A graph of a function  Description automatically generated“I can picture the Polygon’s reflection, Image 1, on the other side of the *y*-axis, and the Polygon’s reflection, Image 2, on the other side of the *x*-axis. Each time, matching vertices will be the same distance from the line of reflection and the polygon, and its image will have opposite orientations.” |
| **Observations/Documentation** |
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