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Project Description: Students will design a 2D figure with at least 4 points in one of the 4 quadrants. Students will record the ordered pairs for the figure and perform a series of transformations on it. Students will first perform a translation, moving the figure to another quadrant. Students will be responsible to recording the algebraic rules for the translation. Then they will reflect the new figure into an unused quadrant, recording the coordinates and the rule again. Finally the student will perform a rotation that allows the student to move the reflected figure into the final, unused quadrant. When finished, the students will see their figure in all 4 quadrants, and have accurate corresponding coordinates identified.

| Categories | Total |
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| Translation <br> 0-5 points <br> * The figure needs to be translated from either the pre-image or image. <br> An algebraic rule for a translation must be present. The figure must <br> translate entirely into a new quadrant. Your x and y coordinate must <br> move. |  |
| Reflection <br> $0-5$ points <br> * The figure needs to be reflected from either the pre-image or image. <br> An algebraic rule for a reflection must be present. The figure must <br> reflect entirely into a new quadrant. |  |
| Rotation <br> $0-5$ points <br> * The figure needs to be reflected from either the pre-image or image. <br> An algebraic rule for a reflection must be present. The figure must <br> reflect entirely into a new quadrant. (note: you may not rotate 360 <br> degrees) |  |
| Creativity \& Execution <br> $0-5$ points <br> *Your project should show great effort and creativity. Color needs to be <br> present. Arrows should be drawn to show the sequences of <br> transformations. Is your project neat and orderly? |  |

