

**PROBLEM-OF-THE-DAY: ALGEBRA 1****WEEK:** January 14 to January 18**DAY:** Wednesday

**RISD Objective:** Given a figure in the coordinate plane, students will be able to determine the coordinates of its image after it has undergone a translation, reflection,  $180^\circ$  rotation about the origin, or dilation.

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**PROBLEM #84**

**A quadrilateral is defined by the points  $(-11, 7)$ ,  $(8, 8)$ ,  $(6, -9)$ , and  $(-4, -5)$ . Find the coordinates of the points if the quadrilateral is rotated  $180^\circ$  about the origin. Explain your work.**

**MODEL SOLUTION #84**

**To rotate a figure about the origin, you must take the opposite of both its x- and y-coordinates (this is the same as reflecting across both the x- and y-axes). So, the new coordinates would be (11, -7), (-8, -8), (-6, 9), and (4, 5).**