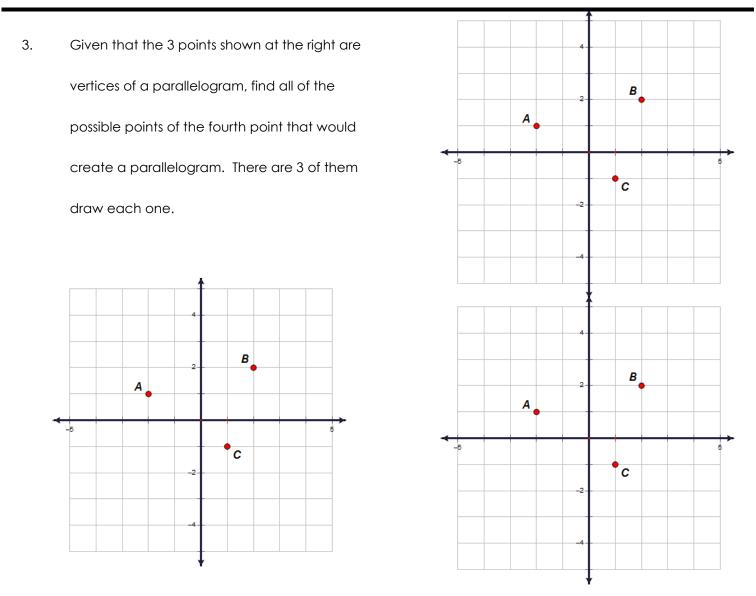
Day 1 – Proving All Parallelograms

- 1. The coordinates of Quadrilateral ABCD are A(-3, 1), B(-2, 4), C(5, 1), D(4, -2)
 - a. Algebraically verify that the Quadrilateral is a Parallelogram by showing that opposite sides are parallel.

b. Determine the midpoint of \overline{AC} and \overline{BD} (What would it suggest if they are the same?)

- 2. The coordinates of Quadrilateral QRST are Q(-3, 1), R(-2, 4), S(4, 2), T(3, -1)
 - a. Algebraically verify that the Quadrilateral is a Rectangle by showing that consecutive sides are perpendicular.

b. Algebraically verify the diagonals \overline{QS} and \overline{RT} are congruent.



4. The coordinates of Quadrilateral JKLM are J(-2, 1), K(-2, 6), L(2, 3), M(2, -2) c. Algebraically verify that the Quadrilateral is a Rhombus by showing that all sides are congruent.

d. Algebraically verify the diagonals \overline{JL} and \overline{KM} are perpendicular.