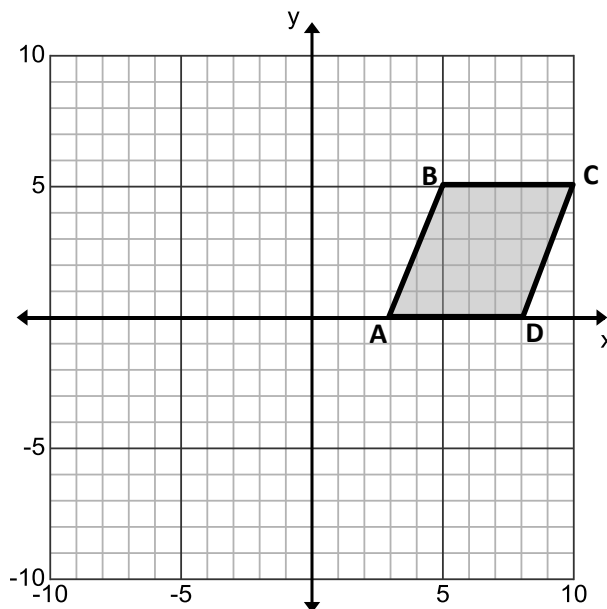


## Lesson 6-10: Quadrilateral Proofs in the Coordinate Plane – Parallelograms and Trapezoids

**PROBLEM SET 6-10 LAB**

1. The vertices of quadrilateral ABCD are  $A(3, 0)$ ,  $B(5, 5)$ ,  $C(10, 5)$ , and  $D(8, 0)$ . Prove, by means of coordinate geometry that ABCD is a parallelogram.

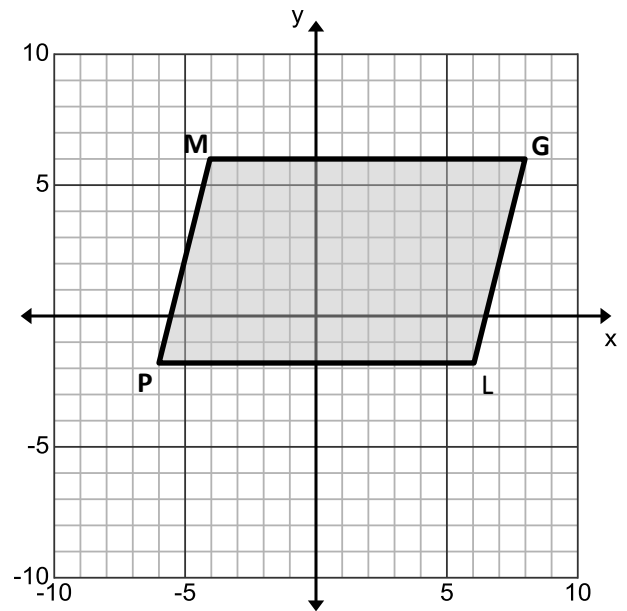
Method 1: Both pairs of opposite sides parallel.



Method 2: Both pairs of opposite sides congruent.

Method 3: 1 pair of opposite sides both parallel and congruent.

2. Prove that the diagonals of parallelogram PLGM bisect each other using coordinate geometry.



3. Quadrilateral QRST is graphed below. Explain using coordinate geometry why QRST is a trapezoid.

