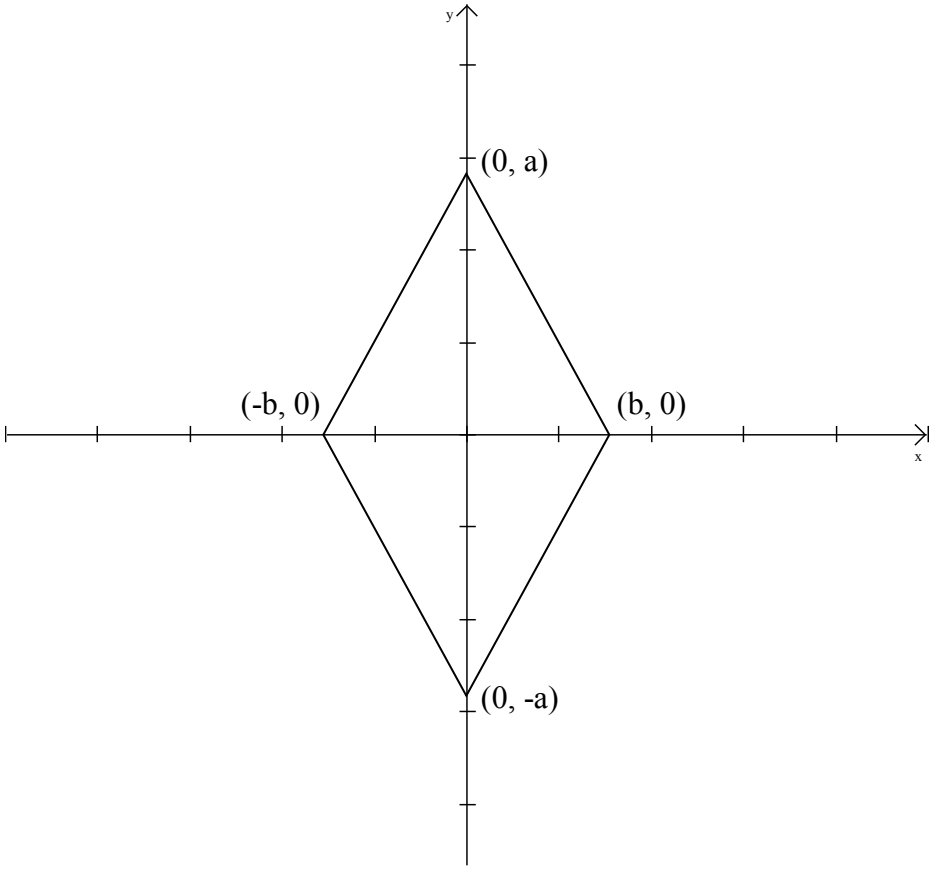
## 6-5: Conditions for Special Parallelograms

- If one angle of a parallelogram is a right angle, then the parallelogram is a rectangle.
- If the diagonals of a parallelogram are congruent, then the parallelogram is a rectangle.
- If one pair of consecutive sides of a parallelogram are congruent, then the parallelogram is a rhombus.
- If the diagonals of a parallelogram are perpendicular, then the parallelogram is a rhombus.
- If one diagonal of a parallelogram bisects a pair of opposite angles, then the parallelogram is a rhombus.

***Using these conditions, you can prove whether a parallelogram is a rectangle, rhombus, or square. Often, we will do so using coordinate proofs.***

EX 4) Prove that the quadrilateral below is a **rhombus**.



EX 5) Use the diagonals to determine whether a *parallelogram* with vertices $K(-5, -1)$, $L(-2, 4)$, $M(3, 1)$, $N(0, -4)$ is a rectangle, rhombus or square. Give all names that apply.