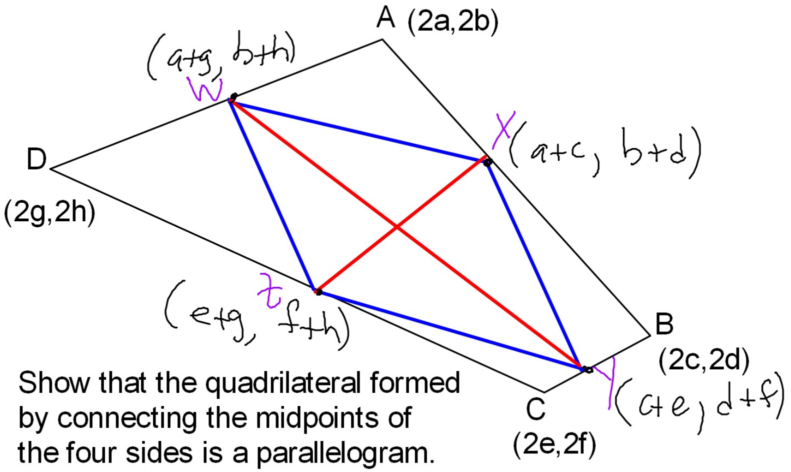


Show that the quadrilateral formed by connecting the midpoints of the four sides is a parallelogram.

Now find the midpoint of the diagonals WY and XZ:

Midpoint of WY: $\left(\frac{a+g+c+e}{2}, \frac{b+h+d+f}{2}\right)$

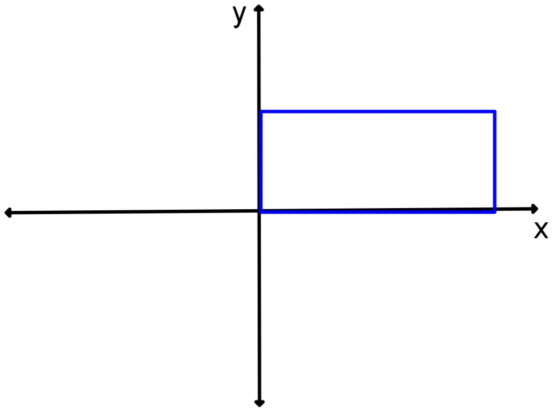
Midpoint of XZ: $\left(\frac{a+c+e+g}{2}, \frac{b+d+f+h}{2}\right)$

The diagonals have the same midpoint therefore, WXYZ is a parallelogram

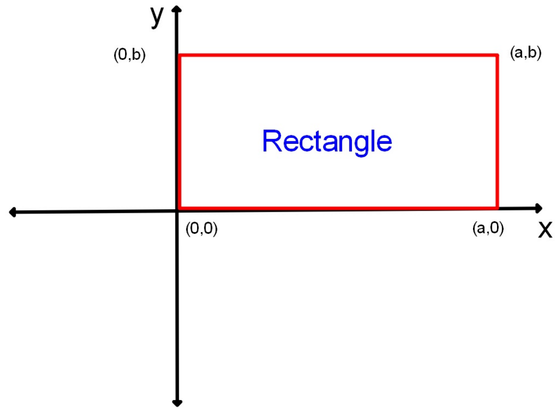
The previous page is an example of a coordinate proof which uses, slope, midpoint, and distance formulas to come to a conclusion.

Placing a figure on the coordinate plane in Standard Position

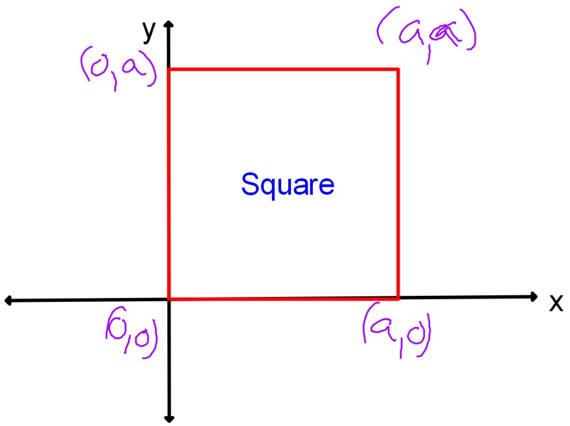
- One vertex is at the origin
- One side is on the pos x-axis



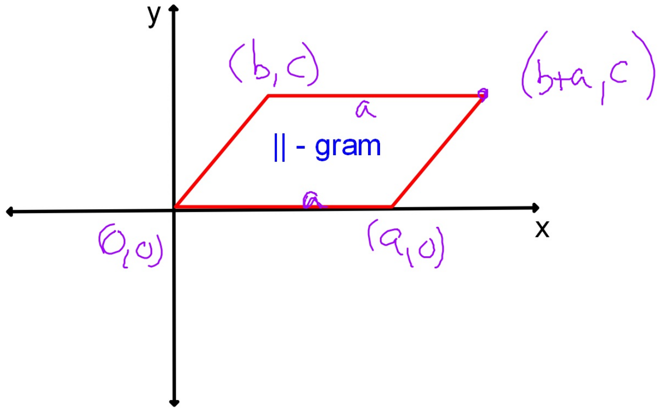
Use the fewest number of variables possible to label the coordinates of all four vertices.



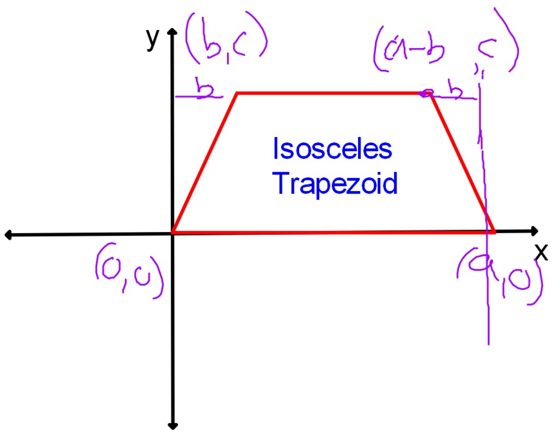
Use the fewest number of variables possible
to label the coordinates of all four vertices.



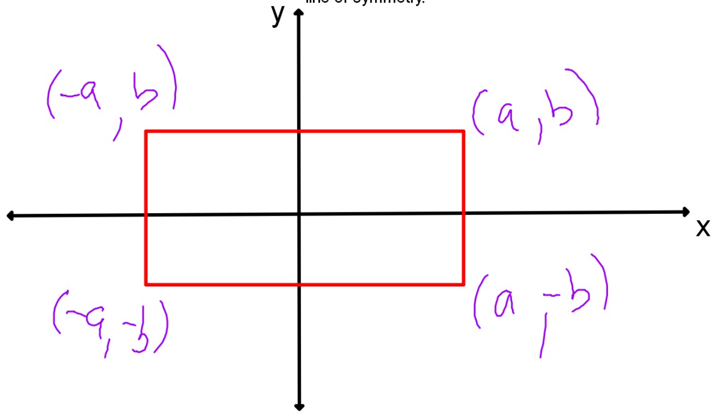
Use the fewest number of variables possible
to label the coordinates of all four vertices.



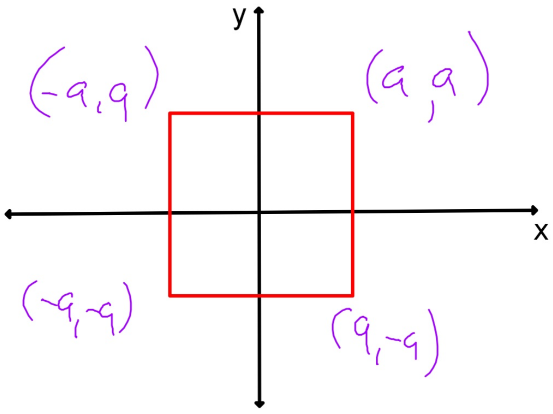
Use the fewest number of variables possible
to label the coordinates of all four vertices.



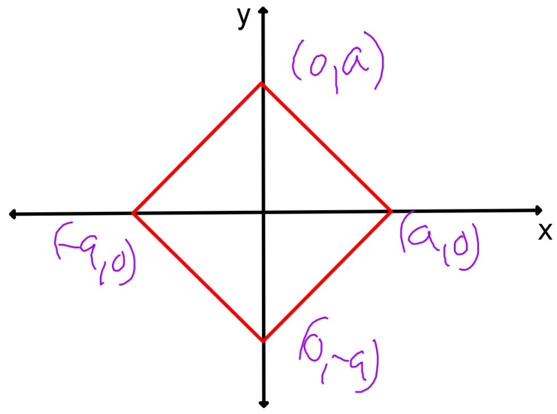
How else could you place the rectangle to make it easy
to label the coordinates of the vertices with as few different
variables as possible? Use the fact that a rectangle has both a horizontal and a vertical line of symmetry.



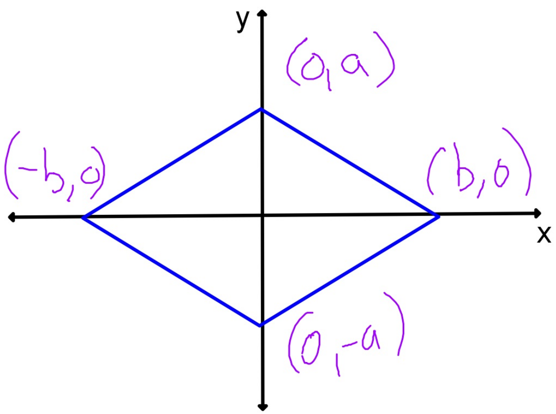
Use the symmetry in a square to place it in the coordinate plane so that the fewest number of variables is needed to label the coordinates of all the vertices.



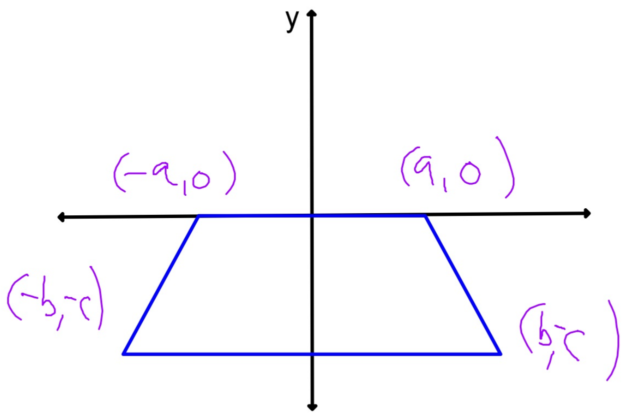
Use a different location of the square but still using symmetry.



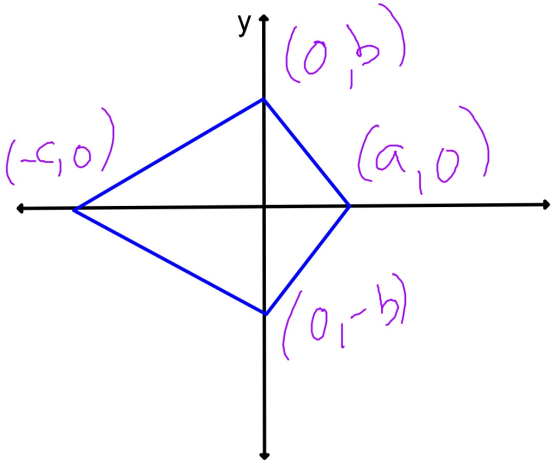
Use the symmetry in a rhombus to place it in the coordinate plane so that the fewest number of variables is needed to label the coordinates of all the vertices.



Use the symmetry in a isosceles trapezoid to place it in the coordinate plane so that the fewest number of variables is needed to label the coordinates of all the vertices.



Use the symmetry in a kite to place it in the coordinate plane so that the fewest number of variables is needed to label the coordinates of all the vertices.



Hwk # 22

Sec 6-6

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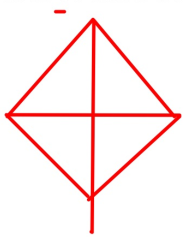
Problems 2-7, 23-26

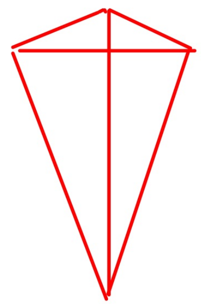
Try sketching a Rhombus so that it looks accurate.



How could you use the properties of the diagonals to sketch an accurate Rhombus?

Draw two perpendicular diagonals that bisect each other and connect the four endpoints.

Try sketching a Kite so that it looks accurate.



How could you use the properties of the diagonals to sketch an accurate Kite/

Draw perpendicular diagonals so that only one of them is bisected then connect the four endpoints.