6.10 - Extra Practice - Coordinate Plane Proofs

Date_____ Period____

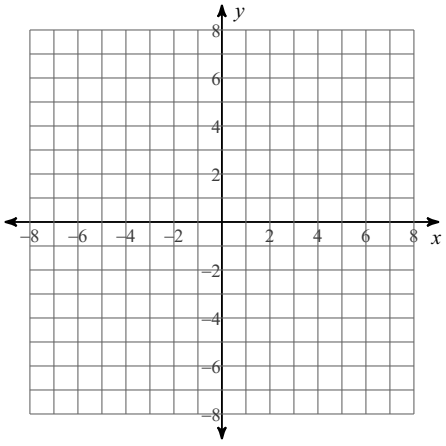
Plot A(-5, 6), B(3, 7), C(4, -1), and D(-4, -2).
A rectangle is a parallelogram with 4 right angles.

1) a. Prove that ABCD is a parallelogram by showing opposite sides are congruent.

b. Prove that ABCD is a parallelogram by showing opposite sides are parallel

c. Prove that ABCD is a rectangle by showing that it has 4 right angles.

d. What other name could we call this quadrilateral. How do you know?

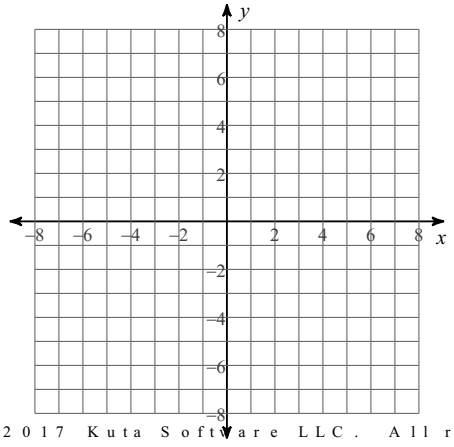


Plot A(-5, 3), B(7, 9), C(6, 3), and D(1, -2).
A trapezoid is a quadrilateral with one pair of opposite sides that are parallel.

2) a. Prove that ABCD is a trapezoid using the definition above.

b. An isosceles trapezoid has one pair of opposite sides that are congruent. Prove that ABCD is an isosceles trapezoid.

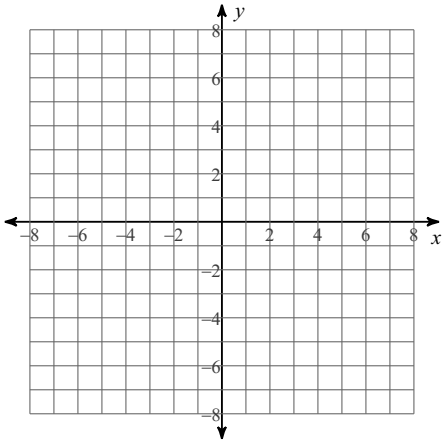
c. Prove that the diagonals of an isosceles trapezoid are congruent.



Plot A(-6, -13), B(-3, 3), C(4, 5), and D(6, -2).
A kite is a quadrilateral with two pair of consecutive sides that are congruent.

3) a. Prove that ABCD is a kite using the definition above.

b. Prove the diagonals of a kite are perpendicular.



Plot A(-1, 3), B(3, 1), C(1, -2), and D(-3, 0).
A parallelogram is a quadrilateral with two pair of opposite sides that are parallel.

4) a. Prove that ABCD is a parallelogram using the definition above.

b. A rectangle is a parallelogram with four right angles. Using this defintion of a rectangle, prove that ABCD is NOT a rectangle.

c. A rectangle is a parallelogram with congruent diagonals. Using this definition, prove that ABCD is NOT a rectangle.