Coordinate Geometry Proofs Practice
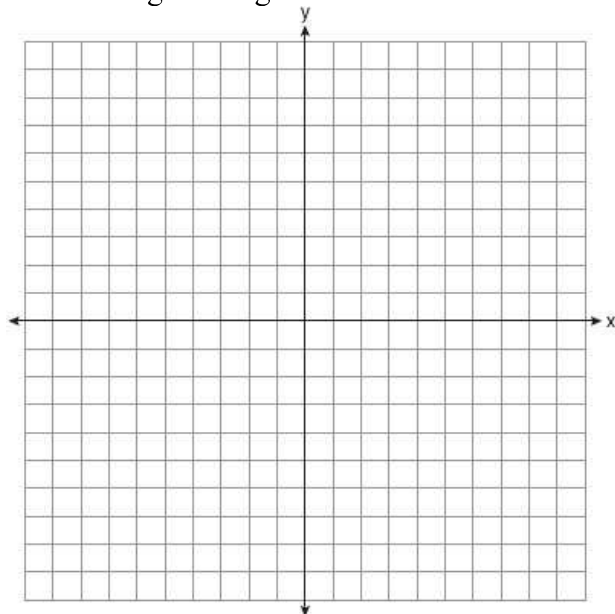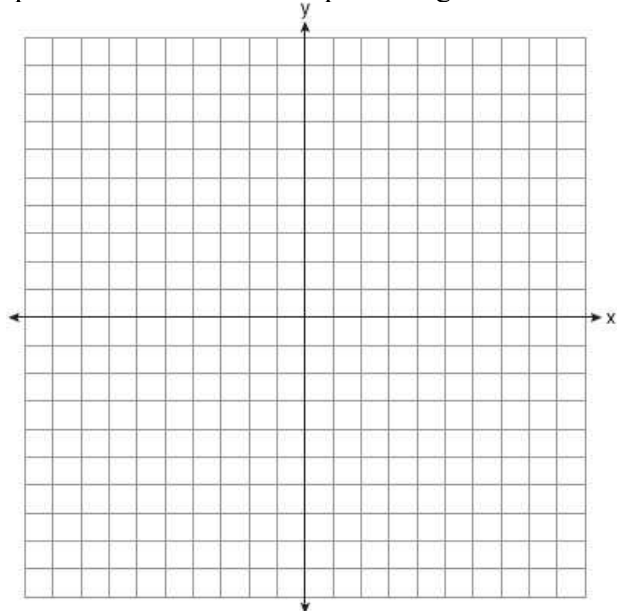
1. Rhombus PAUL has vertices P(2,6) A(6,8), U(10,6), and L(6,4). Using coordinate geometry, prove that PAUL is a rhombus but not a square.

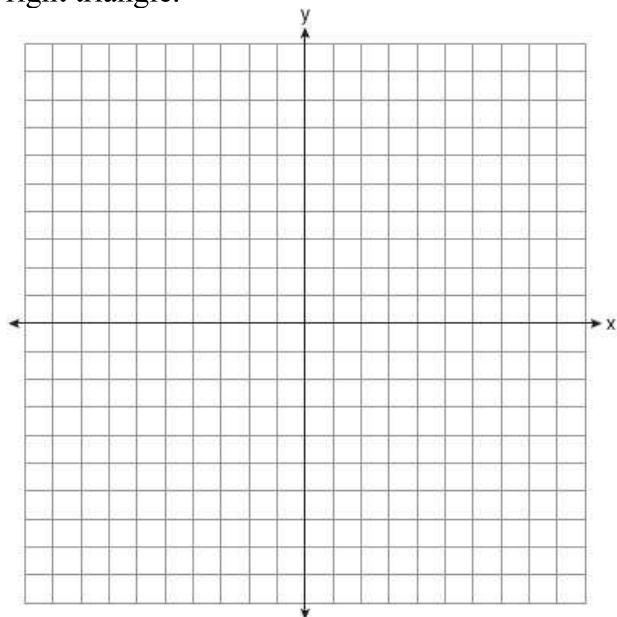

2. Triangle USA has vertices U(4,-7), S(-3,-4), and A(7,0). Prove that triangle USA is an isosceles right triangle.
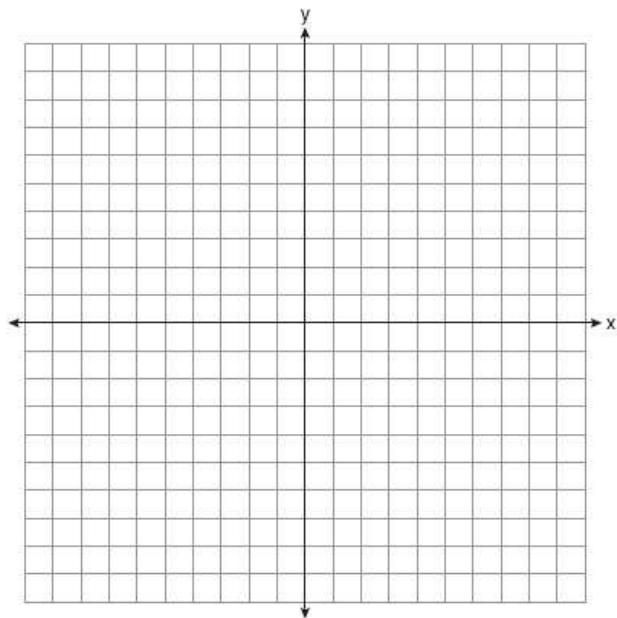
3. The coordinates of quadrilateral ABCD are A(-3,-8), B(6,-1), C(9,10), and D(0,3). Prove that quadrilateral ABCD is a parallelogram but *not* a rectangle.
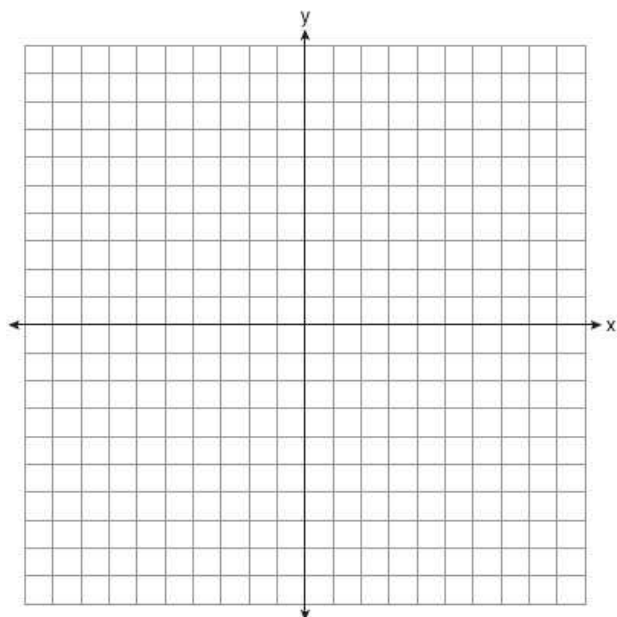
4. Triangle ABC has vertices A(1,1), B(2,5), and C(6,4). Prove that triangle ABC is an isosceles right triangle.
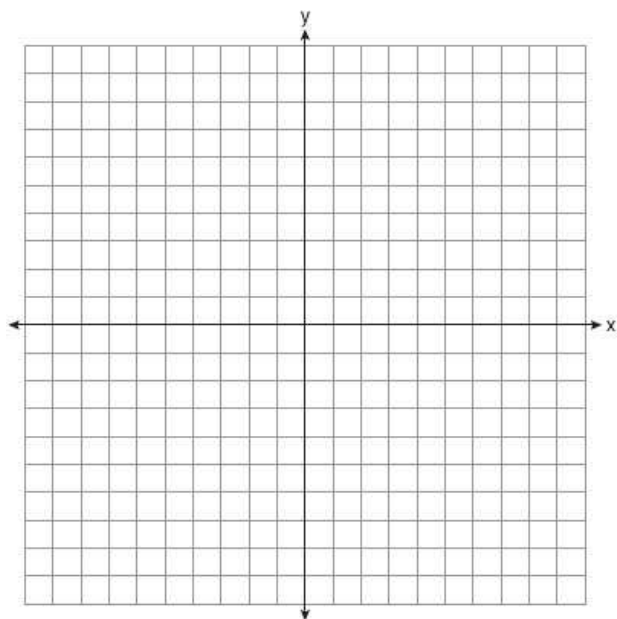
5. Quadrilateral *PQRS* has vertices $P(-2,3)$, $Q(3,8)$, $R(4,1)$, and $S(-1,-4)$. Prove that *PQRS* is a rhombus. Prove that *PQRS* is *not* a square.
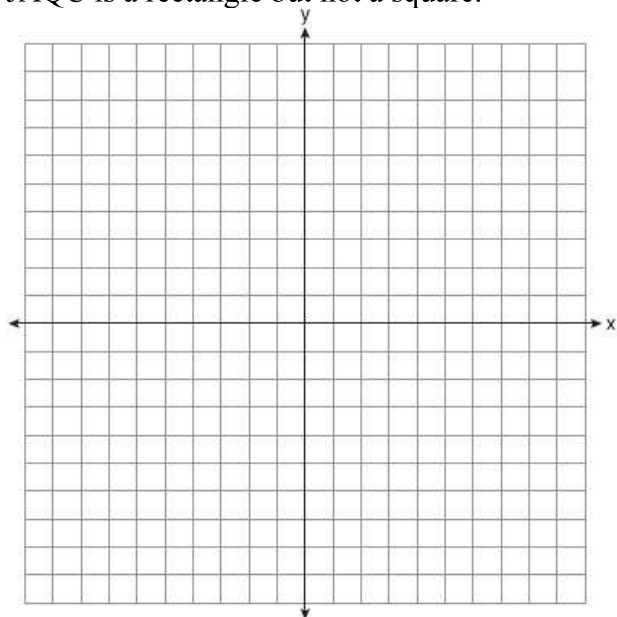
6. Quadrilateral ABCD has vertices A(3,1) B(-3,5) C(5,4) and D(2,6). Prove quadrilateral ABCD is a trapezoid but *not* an isosceles trapezoid.
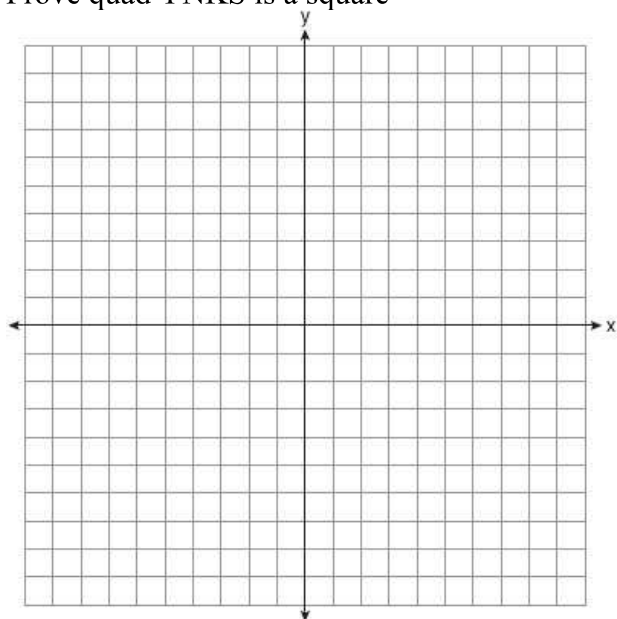
7. The coordinate of quadrilateral TACO are T(-4,0), A(-3,3), C(2,2), and O(1,-1). Prove that TACO is a parallelogram but not a rhombus.
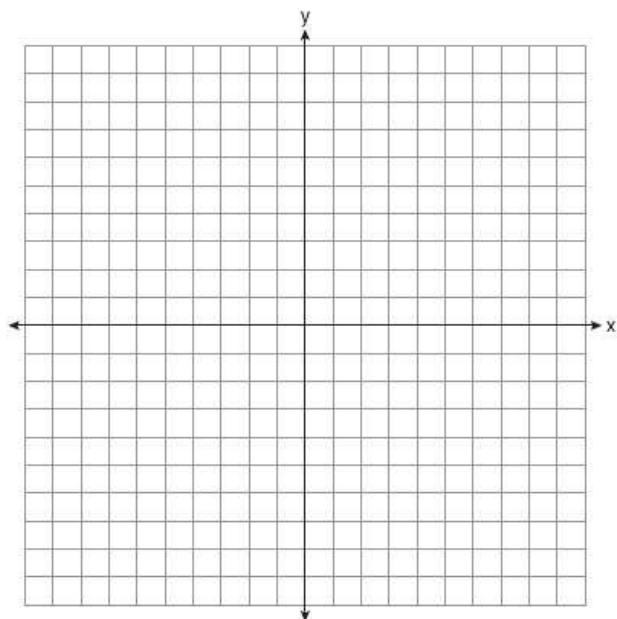
8. Quadrilateral JAQC has vertices J(2,-4), A(8,0), C(0,-1), and Q(6,3). Prove that quadrilateral JAQC is a rectangle but not a square.
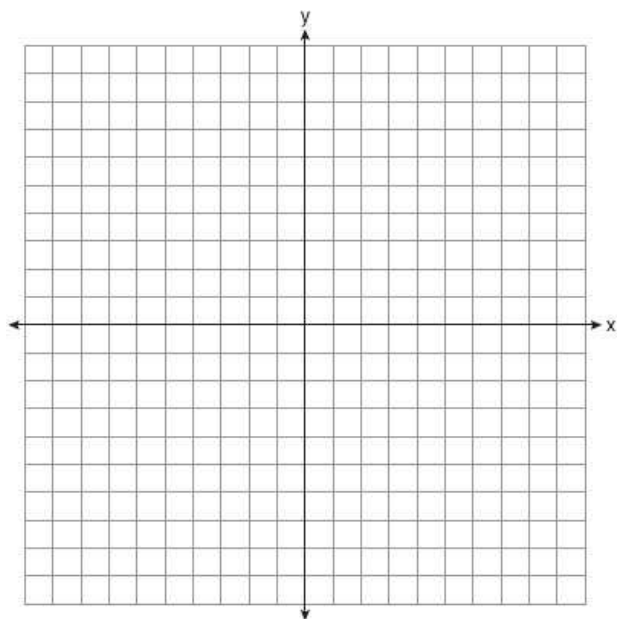
9. Quad YNKS has vertices Y(3,0) N(6,-4) K(10,-1) S(7,3).
Prove quad YNKS is a square

10. Triangle MET has vertices M(-8,-2), E(-6,4), and T(-3,3). Prove that triangle MET is a right triangle.

11. Quadrilateral TOBY has vertices T(-4, -8), O(5,-1), B(8,10) and Y(-1,3). Using coordinate geometry, prove that quadrilateral TOBY is a rhombus but not a square.

12. Quadrilateral JUAN has vertices J(-4,-1), U(-1,4), A(4,1), and N(1,-4). Prove JUAN is a square. Prove Triangle UJN is a right triangle.