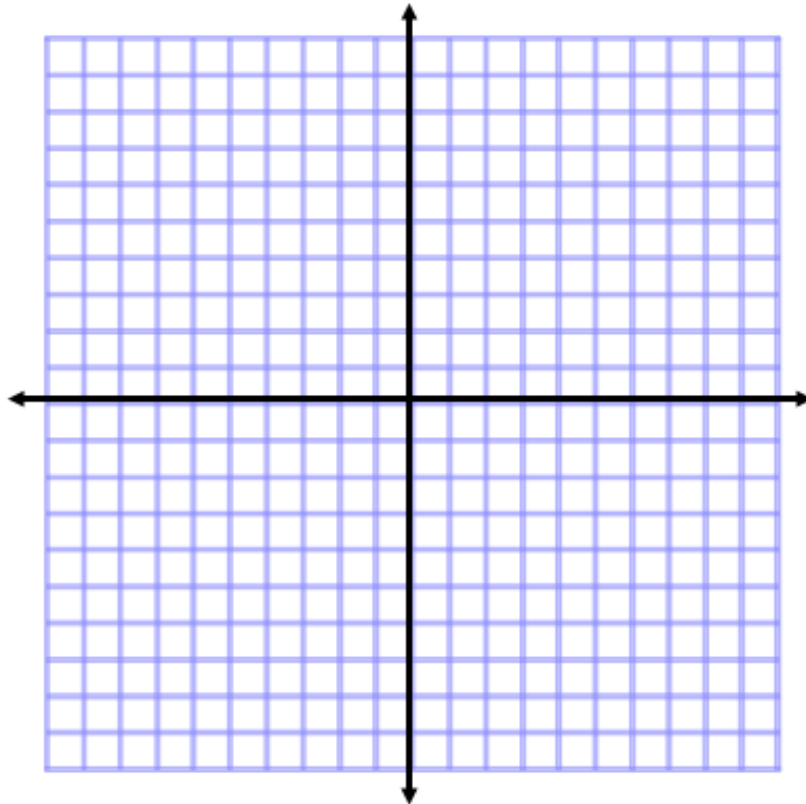


Name: _____
Coordinate Geometry Proofs

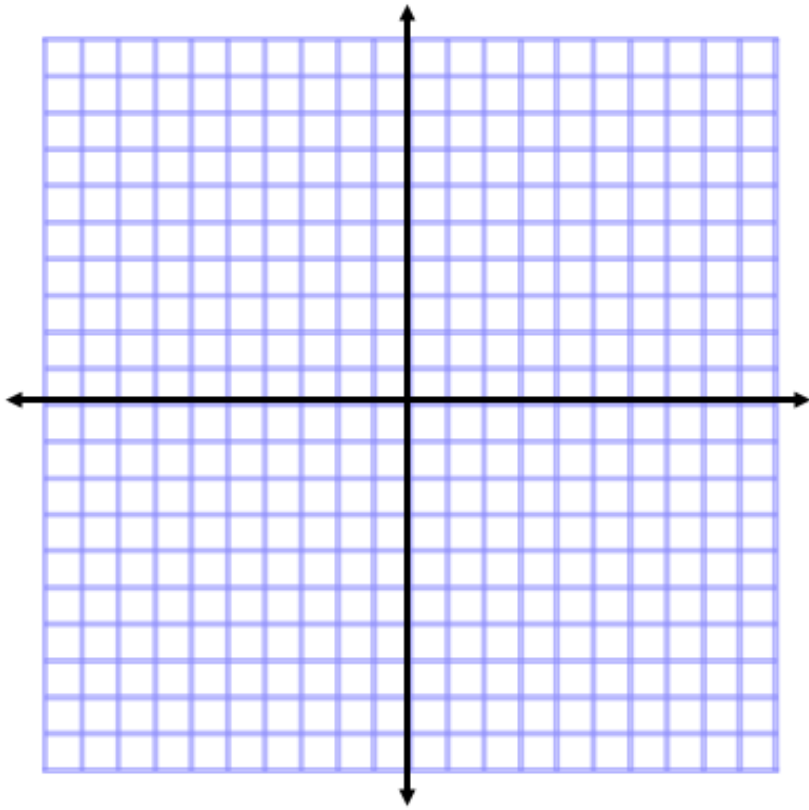
Date: _____ Period: _____

Coordinate Geometry Proofs

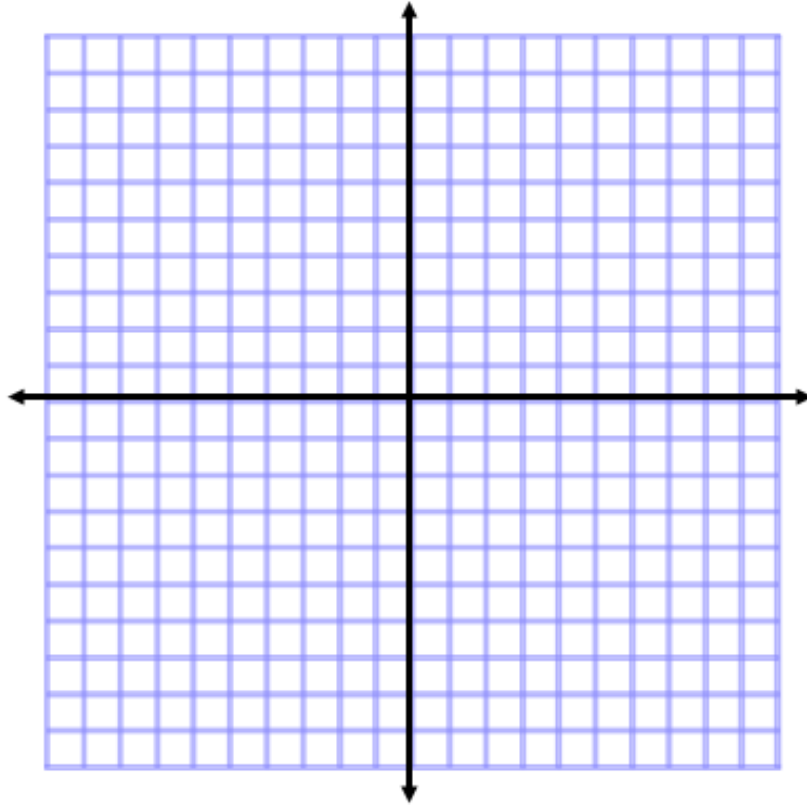
1) Prove that the triangle with vertices $P(-3, 1)$, $Q(4, 2)$, and $R(-2, -1)$ is a right triangle.



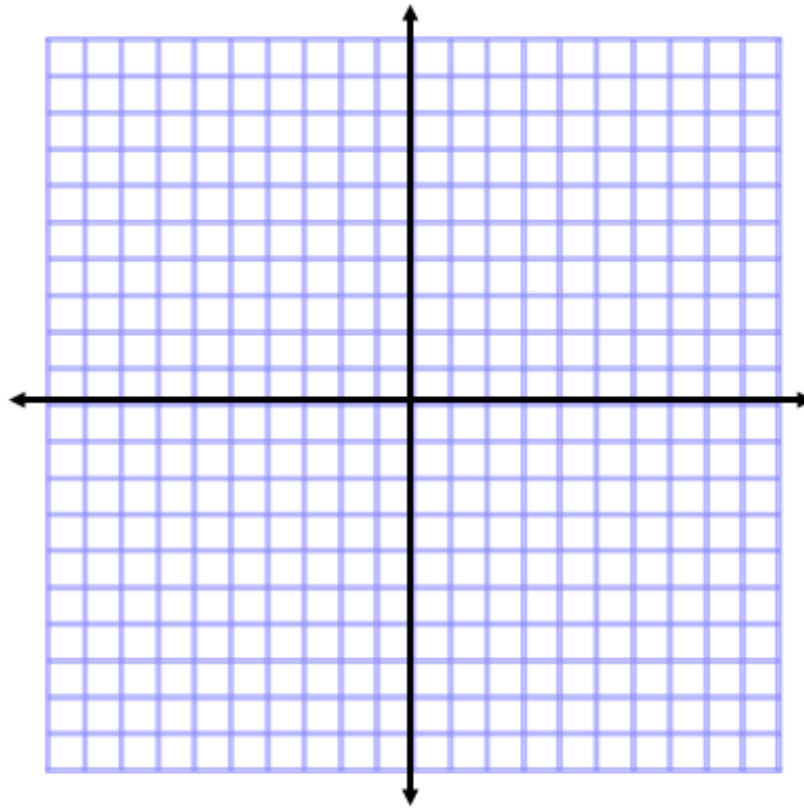
2) Prove that the triangle with vertices $D(0, 4)$, $E(10, 4)$, and $F(5, 9)$ is an isosceles triangle



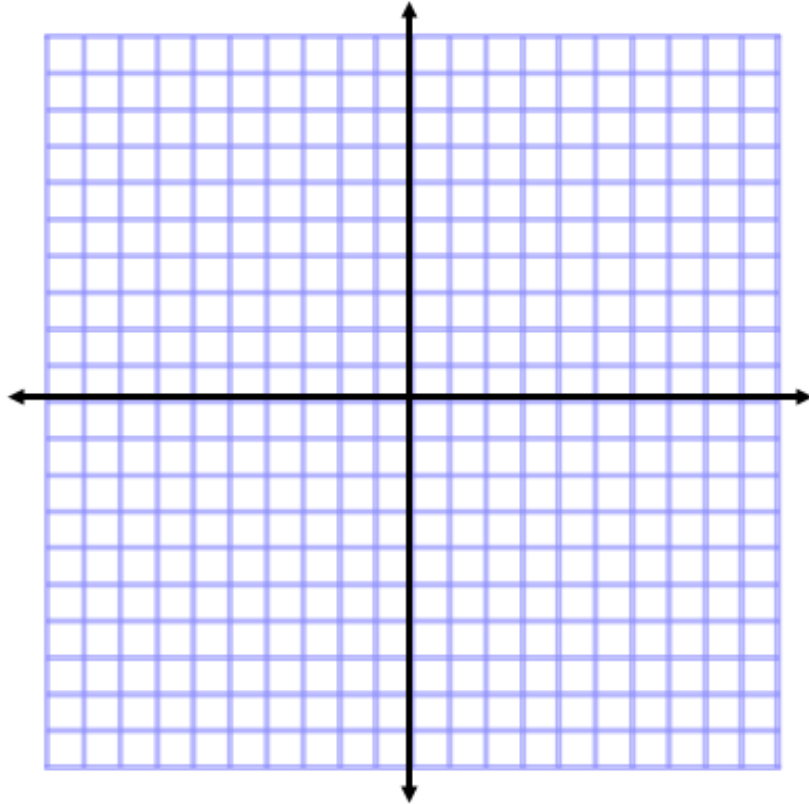
3) Prove that the triangle with vertices $D(2, 3)$, $E(5, 5)$, and $F(4, 0)$ is an isosceles, right triangle.



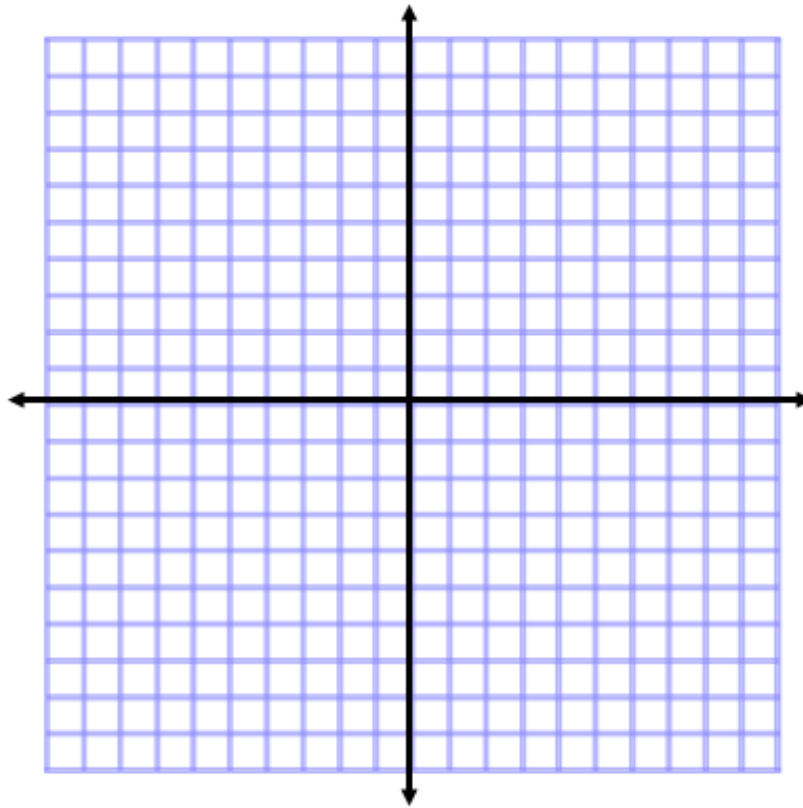
4) Quadrilateral $ABCD$ has vertices $A(-3, -2)$, $B(9, 2)$, $C(1, 6)$, and $D(-5, 4)$. Using coordinate geometry, prove that quadrilateral $ABCD$ is a trapezoid.



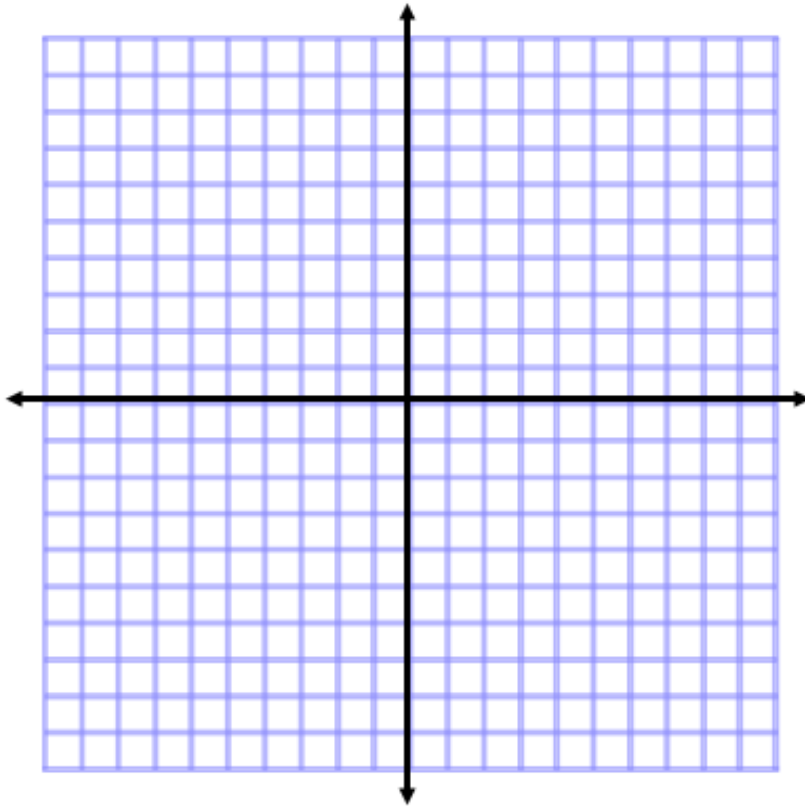
5) Quadrilateral MARY has vertices $M(-3, 3)$, $A(7, 3)$, $R(3, 6)$, and $Y(1, 6)$. Using coordinate geometry prove that quadrilateral MARY is an isosceles trapezoid.



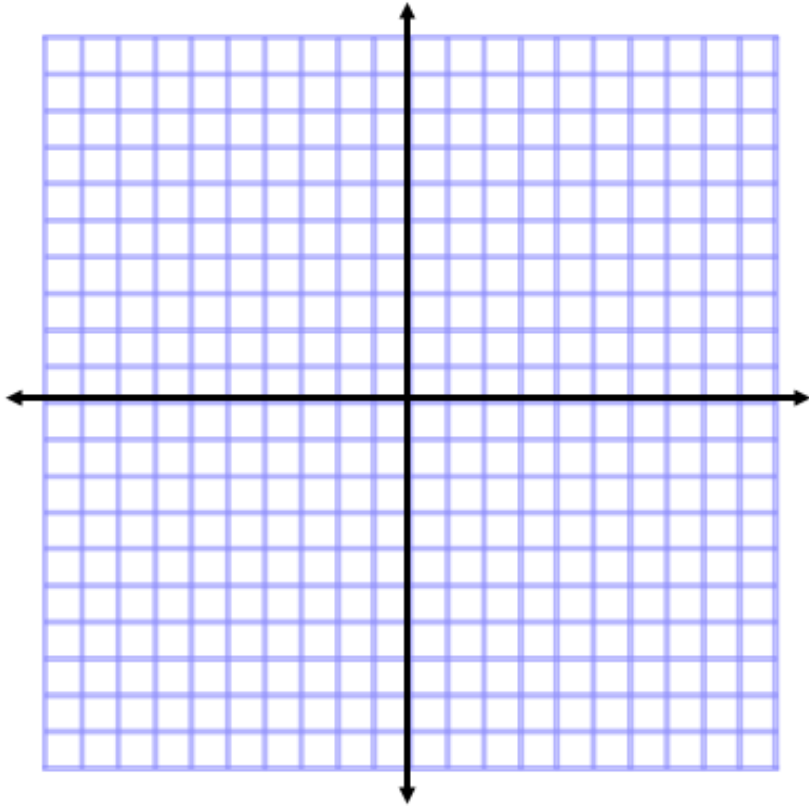
6) If the vertices of quadrilateral PEAR are $P(-3, 0)$, $E(0, 4)$, $A(5, -6)$, and $R(-1, -4)$, show, using coordinate geometry, that quadrilateral PEAR is *not* an isosceles trapezoid.



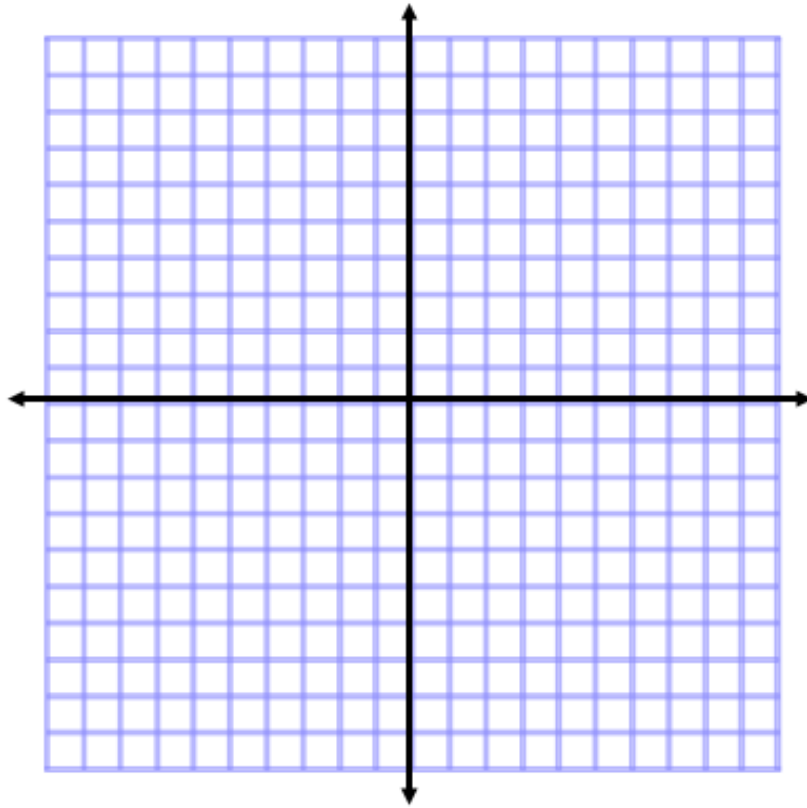
7) The points $A(-2, 3)$, $B(1, 5)$, $C(2, 9)$, and $D(-1, 7)$ are the vertices of a quadrilateral. Prove that $ABCD$ is a parallelogram.



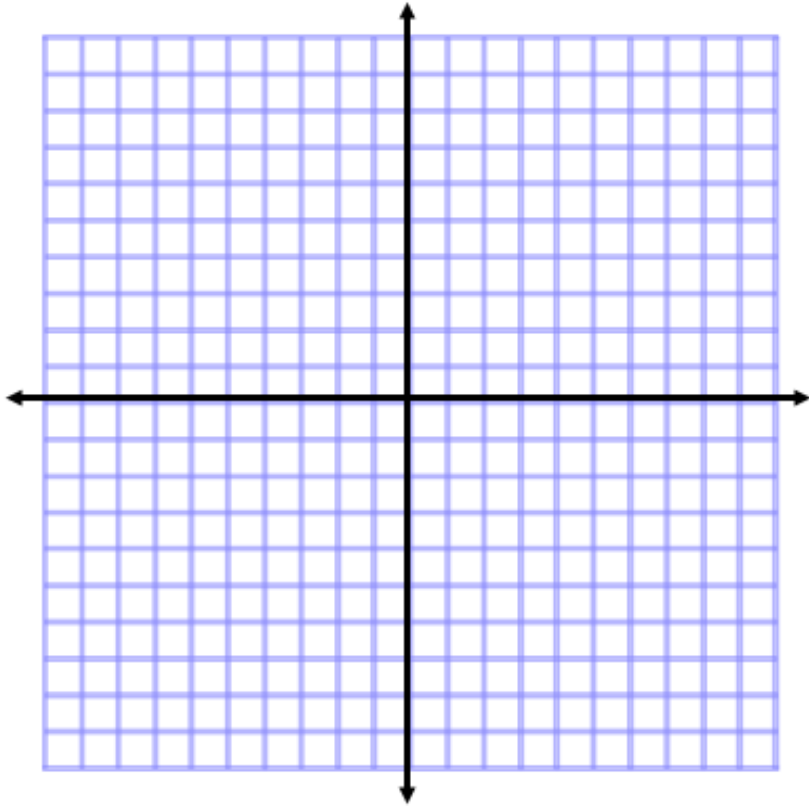
8) Quadrilateral ABCD has vertices $A(-1, 0)$, $B(3, 3)$, $C(6, -1)$, and $D(2, -4)$. Prove that quadrilateral ABCD is a square.



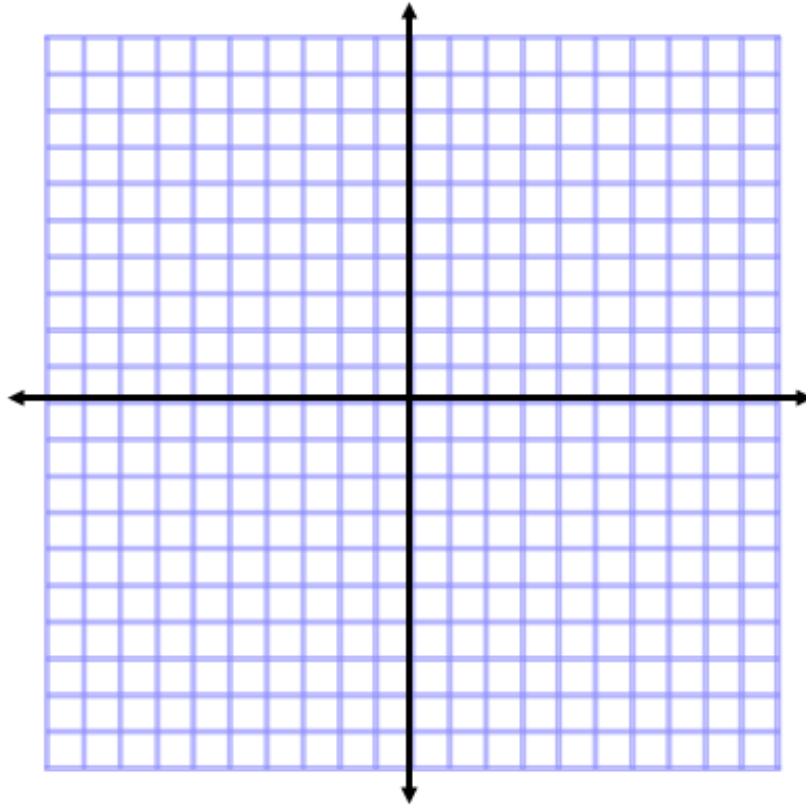
9) Quadrilateral PQRS has vertices $P(0, 2)$, $Q(4, 8)$, $R(7, 6)$, and $S(3, 0)$. Show that PQRS is a rectangle.



10) Given points $(1, 2)$, $(-4, 4)$, $(-3, -8)$, and $(-8, -6)$. Is this quadrilateral a rectangle?



11) Quadrilateral NORA has vertices $N(3,2)$, $O(7,0)$, $R(11,2)$, and $A(7,4)$. Use coordinate geometry to prove that a) quadrilateral NORA is a rhombus, and b) quadrilateral NORA is not a square.



12) Quadrilateral ABCD with vertices $A(0, 0)$, $B(a, 0)$, $C(a, a)$, and $D(0, a)$. Prove that the figure is a square.

13) Triangle ART has vertices $A(a, b)$, $R(a + c, b)$, and $T(a + c/2, b + d)$. Using coordinate geometry prove that triangle ART is isosceles.