Construct a Kite.

1.   Draw a line segment RT and construct a line which is a perpendicular bisector to segment RT.
2.   Pick two different points on your perpendicular line and call them S and Q.
3.   Then discuss how this can create a kite.

1.)   Use a protractor to measure the angles formed by the intersection of QS and RT and measure all of the sides of your kite.

2.)   Measure the interior angles of kite QRST. Are they congruent? If so, what ones?

3.)   Label the intersection of QS and RT as point N. Find the lengths of QN, NS, TN, and NR. How are they related?

4.)   How many pairs of congruent triangles can be found in kite QRST?

5.) Determine whether the lines of the equations y=4x-3, y=7x-60, x-4y=-3, and x-7y=-60 determine the side of your kite, justify your reasoning.

Proving Kite and Trapezoid Properties

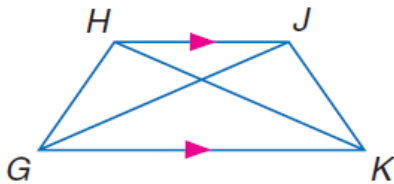Directions: Use Kite ABCD to prove #1-2.

1.) Write a proof by contradiction.
Given: DC=DA, CB=AB, <DEC=90°
Prove: DE≠EB
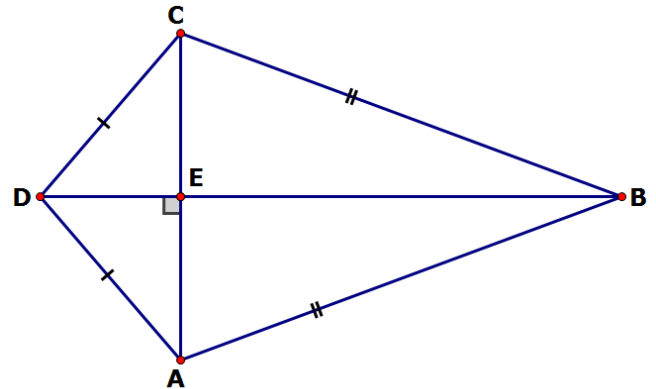
2.) **Given**: DC=DA, CB=AB, <DEC=90°
Prove: m<CBD=m<ABD

3.) **Given:** $\overline{HJ} \parallel \overline{GK}$,
$\triangle HGK \cong \triangle JKG, \overline{HG} \nparallel \overline{JK}$
Prove: $GHJK$ is an isosceles trapezoid.

4.) **Given:** $\triangle TZX \cong \triangle YXZ$,
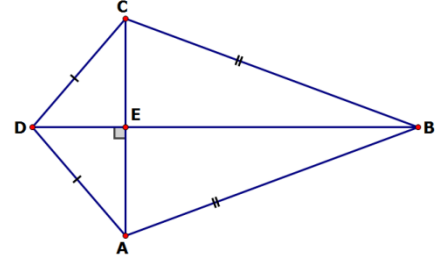$\overline{WX} \nparallel \overline{ZY}$
Prove: $XYZW$ is a trapezoid.
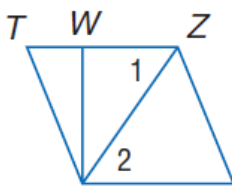
Name: _____ Date: _____ Hour: _____

ACC Geo: Kites and Trapezoids Proofs & Practice

1.) Use Kite ABCD
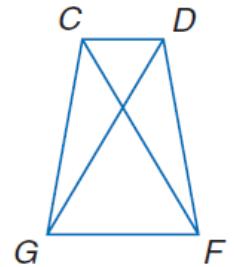   **Given**: DC=DA, CB=AB, <DEC=90°
      Prove: m<CDE=m<ADE

2.)   Use Kite ABCD
    Given: DC=DA, CB=AB, <DEC=90°
    Prove: CE=EA

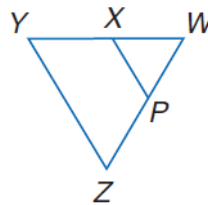3.)   **Given**: CDFG is an isosceles trapezoid with bases CD and FG.
    Prove: m<DGF=m<CFG

4.)   **Given**: ZYXP is an isosceles trapezoid.
    Prove: ΔPWX is isosceles.

5.)   **Given**: E is the midpoint of AD and C is the midpoint of DB. AD=DB and m<A=m<1.
    Prove: ABCD is an isosceles trapezoid.