Geometry: **Points of Triangle Concurrency** Name:_____ Per:_____ Date:_____

Incenter - ∠ bisectors

Incenter Theorem:

1. Construct the 3 **<u>angle bisectors</u>** of the triangle.
2. Label the point of concurrency P.
3. Construct the 3 ⊥ lines from the sides of the triangle to point P.
4. Label each bisector intersection as X, Y and Z and Measure each distance: PX= _____ PY = _____ PZ = _____
5. Compare the distances you measured in part 4. Use this to come up with the Incenter Theorem.
6. Construct the inscribed circle using point P as the center. The circle should just fit inside your triangle, touching each side of the triangle at the ⊥ line.