

## Math 318 Geometer's Sketchpad In-Class Work

You will be asked to make several objects with Geometer's Sketchpad. Be sure that you construct each object so that it will pass the "drag test". For instance, if you are asked to make a rectangle, you should be able to drag the shape around and the shape should stay rectangular. In fact, it should yield all possible rectangles.

1. Use Geometer's Sketchpad to make the following shapes. Be sure to have each one checked by Dr. Smith.

- (a) Parallelogram (a general parallelogram, not a special one)
- (b) Rectangle
- (c) Square
- (d) Square tool
- (e) Rhombus (with no fixed angles)
- (f) Trapezoid (a general one, not an isosceles one)
- (g) Equilateral triangle
- (h) Equilateral triangle tool
- (i) Regular hexagon

2. Explorations

- (a) Make a circle. Make any cyclic quadrilateral (each vertex must be on the circle). Measure the interior angles of the quadrilateral. What do you notice? Will this always happen?
- (b) Make a non-special quadrilateral. Make another quadrilateral by connecting the midpoints of all the sides of the original quadrilateral. What do you notice about the new quadrilateral? Will this always happen?