CSCI 4250/5250 Homework 5 **Name_____**
Due beginning of class, Monday, Oct 1st

1. Show in parametric form the line that goes through points A=(4, 9) and B=(0, 5).

2. Show in point normal form the line that goes through points A=(4, 9) and B=(0, 5).

3. Show in parametric form the perpendicular bisector of the line segment having end points A=(4, 9) and B=(0, 5).

4. For light ray a=(2, 3) and surface normal n=(-2, 1), find the direction of the reflection of the ray.

5. Find point C and some vectors **a** and **b** that create a patch having the four corners (-4, 2, 1), (1, 7, 4), (-2, -2, 2), and (3, 3, 5) (textbook pg 170/ex 4.5.9).

6. Find the point where the ray (1, 5, 2)+(5, -2, 6) t hits the plane 2x-4y+z=8. This is important in a shading algorithm to tell how much light is reflected back to the viewer from a polygonal face (the plane), which describes the skin of a solid object (pg 176/ex4.7.2).

7. Apply the polygon clipping algorithm to clip the line L1(t) that goes through points C(2, 6) and D(11, 1) from the polygon P defined in class, compute the segment of line L2(t) that resides within P.