

**Quiz 5      Calculus 3      Due 10/24/2006**

Each problem is worth 5 points. Clear and complete justification is required for full credit.

1. Find the center of mass of a right triangular region with legs of length  $a$  and  $b$  if the density is proportional to the distance from the leg of length  $a$ .

2. Find the center of mass of the cardioid  $r = 4 - 4\sin \theta$  provided that the density is uniform.