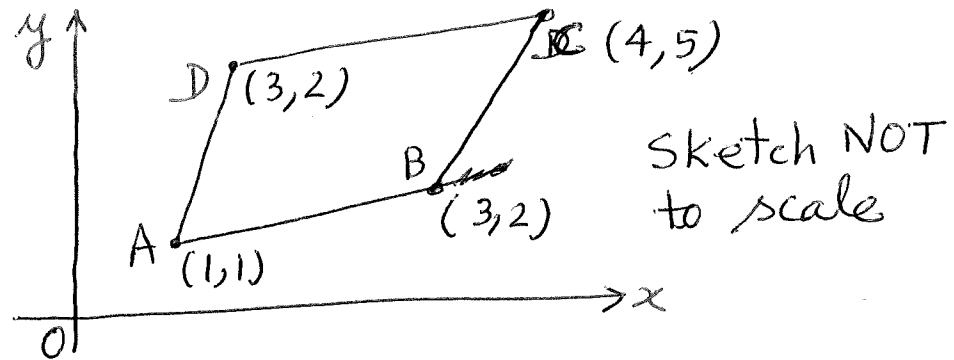1. Find the mapping, T_e from Ω_e to Ω_M for the following scenarios.

   (a) Ω_M = 4-node square element, Ω_e = quadrilateral ABCD shown in the Fig. 1,
   (b) Ω_M = 3-node master right-angle triangular element, Ω_e = triangle ABD shown in the Fig. 1,
   (c) for cases (a) and (b) find (r, s) coordinates of the centroid of the triangle ABD.

2. For the FE mesh shown in Fig. 2, plot to scale the basis function for nodes 9, 17 and 19 .