Numerical examples

1 Solve the temperature distribution for the 1-D heat flow problem shown below. Boundary conditions T(x = 2) = 0 and q(x = 8) = 15. First use three linear elements (also solved in Ottosen and Petersson) then 20 elements.



2 Solve the 2-dimensional heat flow problem. Boundary conditions are T = 1000 in the hole and T = 100 at the outer boundaries. Take advantage of the symmetry conditions. Assume isotropy and use k = 1 (heat conduction) for simplicity. (Use the element command flw2te in Calfem)

