Convergence demo – plate with a hole

\[ p = 25.0 \text{ N/mm}^2 \]

All lengths in mm.
Thickness = 1 mm
\[ E = 7.0 \times 10^4 \text{ N/mm}^2 \]
\[ v = 0.25 \]
Uniform mesh refinement

Graded mesh refinement
Plane stress, Compressible material ($\nu = 0.25$)

- 4-node displ-based element
- 9-node displ-based element
Plane stress, Compressible material ($\nu = 0.25$)

4-node displ-based element

9-node displ-based element
Plane strain, Incompressible material ($\nu = 0.4999$)

4-node displ-based element

9-node displ-based element
Plane strain, Incompressible material ($\nu = 0.4999$)

4-node displ-based element

9-node displ-based element
Plane strain, Incompressible material ($\nu = 0.4999$)

4/1 (u/p) mixed element

9/3 (u/p) mixed element
Plane strain, Incompressible material ($\nu = 0.4999$)

4/1 (u/p) mixed element

9/3 (u/p) mixed element