Patch test No. 1

$$E = 10 \text{ GPa}$$
$$\nu = 0.1$$
$$t = 1.0 \text{ m}$$

Boundary stresses:

$$g^e = \left\{ \begin{array}{c} \sigma_n \\ \tau \end{array} \right\} = \begin{bmatrix} \cos(\alpha) & \sin(\alpha) \\ -\sin(\alpha) & \cos(\alpha) \end{bmatrix} \left\{ \begin{array}{c} p_x \\ p_y \end{array} \right\} = \begin{bmatrix} \cos(\alpha) & \sin(\alpha) \\ -\sin(\alpha) & \cos(\alpha) \end{bmatrix} \begin{bmatrix} \sigma_x & \tau_{xy} \\ \tau_{yx} & \sigma_y \end{bmatrix} \left\{ \begin{array}{c} \cos(\alpha) \\ \sin(\alpha) \end{array} \right\}$$
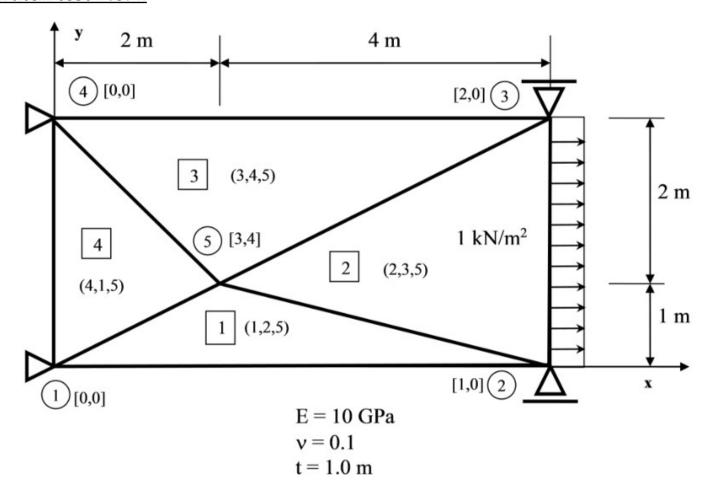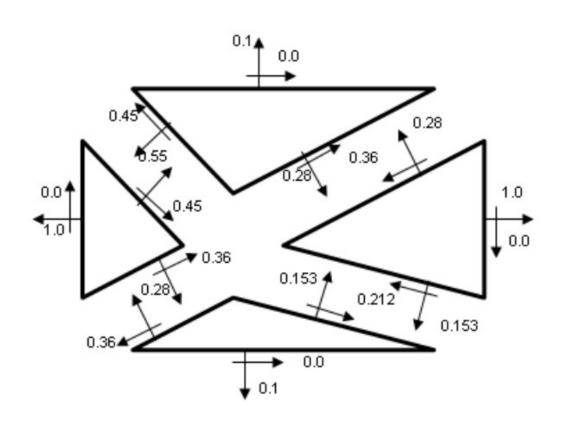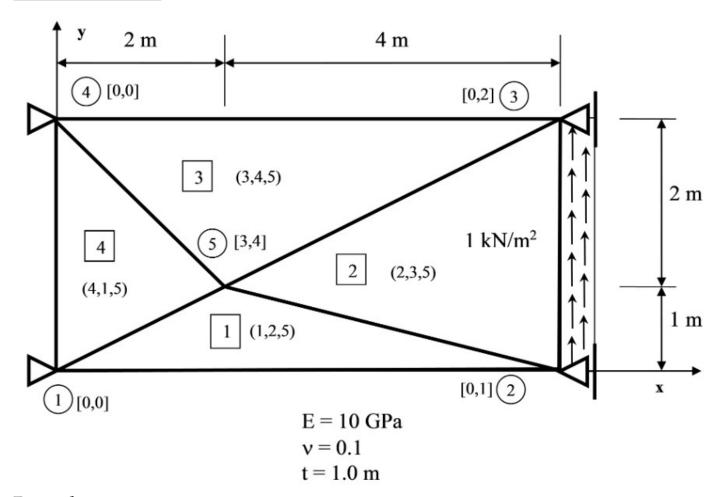
Patch test No. 2

Boundary stresses:

$$g^e = \left\{ \begin{array}{c} \sigma_n \\ \tau \end{array} \right\} = \left[\begin{array}{cc} cos(\alpha) & sin(\alpha) \\ -sin(\alpha) & cos(\alpha) \end{array} \right] \left\{ \begin{array}{c} p_x \\ p_y \end{array} \right\} = \left[\begin{array}{cc} cos(\alpha) & sin(\alpha) \\ -sin(\alpha) & cos(\alpha) \end{array} \right] \left[\begin{array}{cc} \sigma_x & \tau_{xy} \\ \tau_{yx} & \sigma_y \end{array} \right] \left\{ \begin{array}{c} cos(\alpha) \\ sin(\alpha) \end{array} \right\}$$