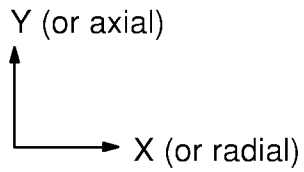
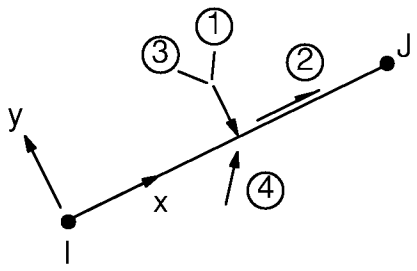
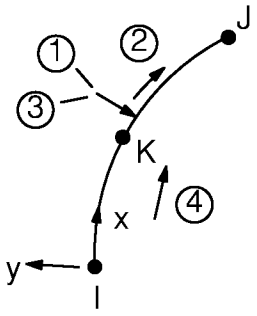
14.153 SURF153 — 2–D Structural Surface Effect







Matrix or Vector	Shape Functions	Integration Points
All	$w = C_1 + C_2x$ with no midside node	2
	$w = C_1 + C_2x + C_3x^2$ with midside node	2

Load Type	Distribution
All Loads	Same as shape functions

The logic is very similar to that given for SURF154 in Section 14.154 with the differences noted below:

1. For surface tension (SURT $\neq$ 0 where SURT is input on **R** command) in axisymmetric models (KEYOPT(3) = 1), an average force is used on both end nodes.
2. For surface tension with midside nodes, no load is applied at the middle node, and only the component directed towards the other end node is used.
3. For applied pressure on face 1, there is no pressure load stiffness matrix.