

Remarks: See §4.5.3, page 136 till 140
See §9.2.2, page 332 till 337

A necessary condition for a kinematically determinate structure:
 $n = r + v - e = r + s - 2k \geq 0$. After this men should check the bar configuration.

If $n < 0$ the truss is without a doubt kinematically indeterminate

If $n > 0$ n is the degree of static indeterminacy

Hints:

Try to check if the truss is kinematically determinate by looking at self-containing triangles. Try to do this without formulas. Notice that all four rectangle shaped trusses are self-contained. Displacements are only possible by the supports.

Answers:

1a/b. see §4.5, page 130

1c. If the bar support is not used in the calculation for the truss:
 $r = 2$; $s = 9$; $k = 6 \rightarrow n = -1$; **ki**, There are only two supports instead of the necessary three

2a/b. see §4.5, page 130

2c. If the bar support is not used in the calculation for the truss: $r = 4$; $s = 10$; $k = 6 \rightarrow n = +2$; **kd en si**, There's one support reaction and one bar in the truss too much.

3a/b. see §4.5, page 130

3c. If the bar support is not used in the calculation for the truss: $r = 3$; $s = 9$; $k = 6 \rightarrow n = 0$; **kd en sb**

4a/b. see §4.5, page 130

4c. If the bar support is not used in the calculation for the truss: $r = 3$; $s = 11$; $k = 6 \rightarrow n = +2$; **still ki**, Three support reactions go through one point.