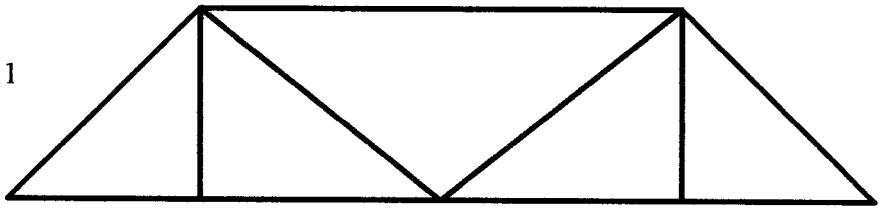
Structural Stability Formula K=2J-R

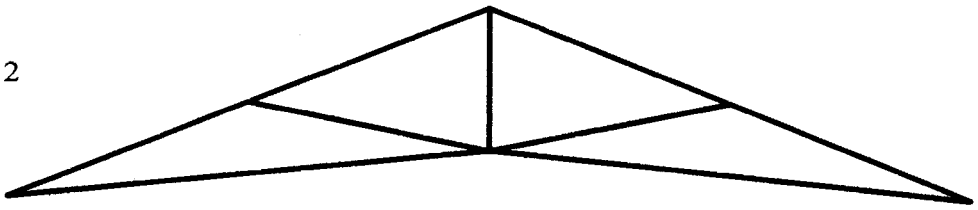
K= The unknown to be solved
J= # of joints
M= # of members
R= 3 (the # of sides on a triangle)

Figure 1



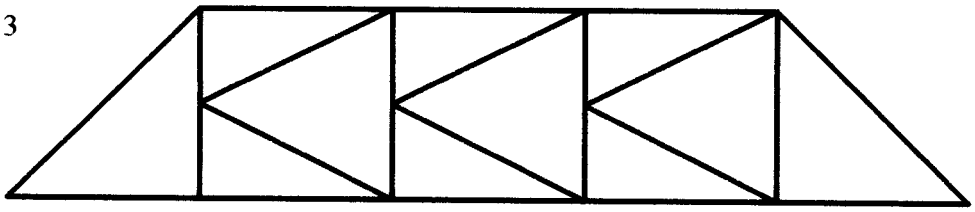
J= _____
M= _____

Figure 2



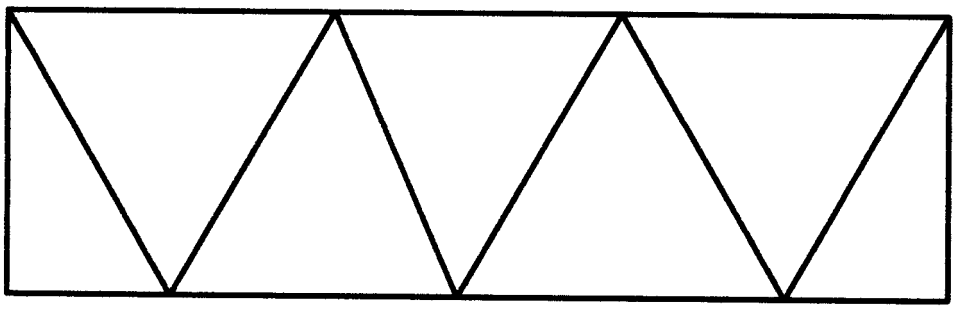
J= _____
M= _____

Figure 3



J= _____
M= _____

Figure 4



J= _____
M= _____

Stability Formula Results
M = K stable design
M < K design is not stable
M > K design is indeterminate

1. Figure 1

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

2. Figure 2

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

3. Figure 3

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

4. Figure 4

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

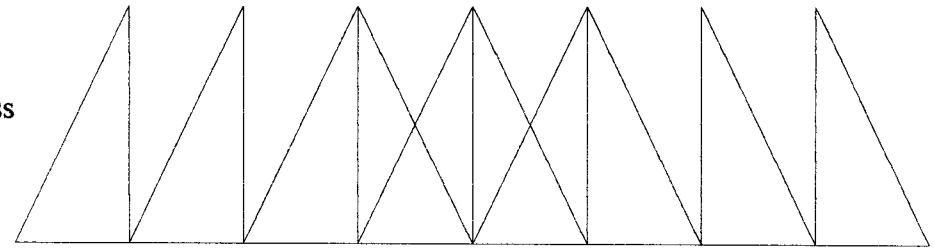
Results: M _____ K _____

Structural Stability Formula

K=2J-R

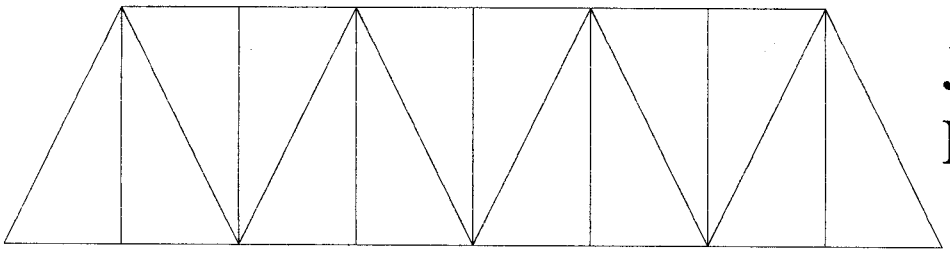
K= The unknown to be solved
J= # of joints
M= # of members
R= 3 (the # of sides on a triangle)

Figure 1
Howe truss



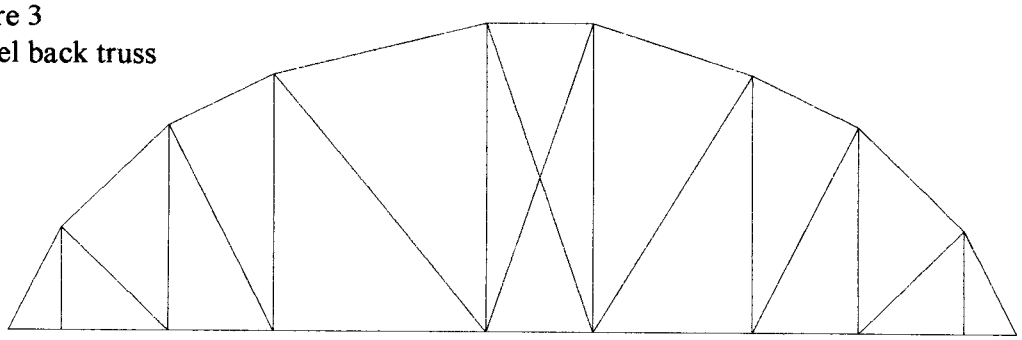
J= _____
M= _____

Figure 2
Warren truss



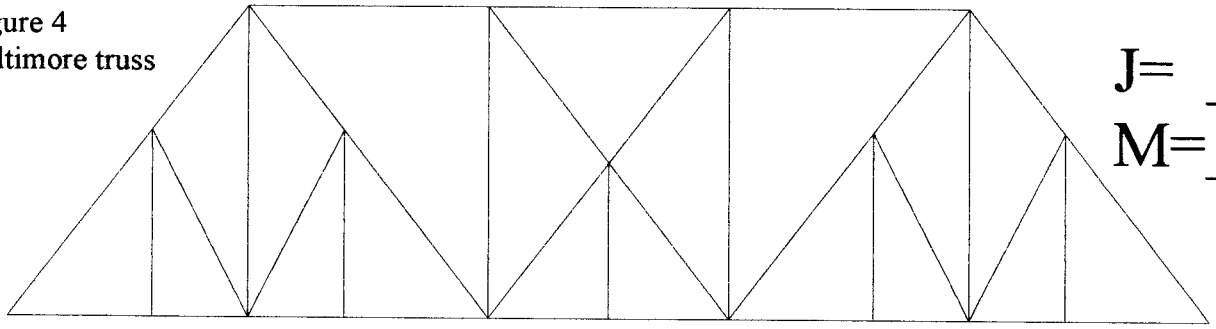
J= _____
M= _____

Figure 3
Camel back truss



J= _____
M= _____

Figure 4
Baltimore truss



J= _____
M= _____

Stability Formula Results
M = K stable design
M < K design is not stable
M > K design is indeterminate

1. Figure 1

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

2. Figure 2

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

3. Figure 3

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

4. Figure 4

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

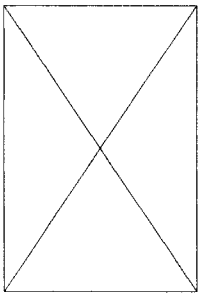
M= _____

Results: M _____ K _____

Structural Stability Formula
K=2J-R

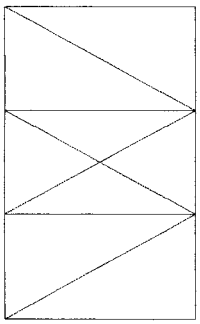
K= The unknown to be solved
J= # of joints
M= # of members
R= 3 (the # of sides on a triangle)

Figure 1



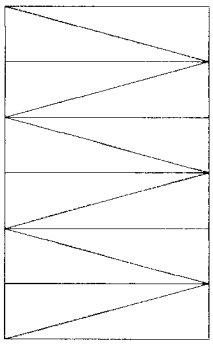
J= _____
M=_____

Figure 2



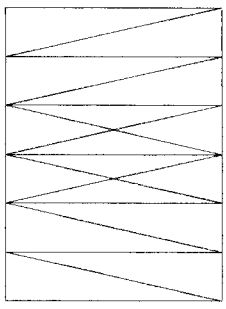
J= _____
M=_____

Figure 3



J= _____
M=_____

Figure 4



J= _____
M=_____

Stability Formula Results
M = K stable design
M < K design is not stable
M > K design is indeterminate

1. Figure 1

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

2. Figure 2

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

3. Figure 3

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____

4. Figure 4

K= 2J-R

K = 2(____) - ____

K= _____ - _____

K= _____

J= _____

M= _____

Results: M _____ K _____