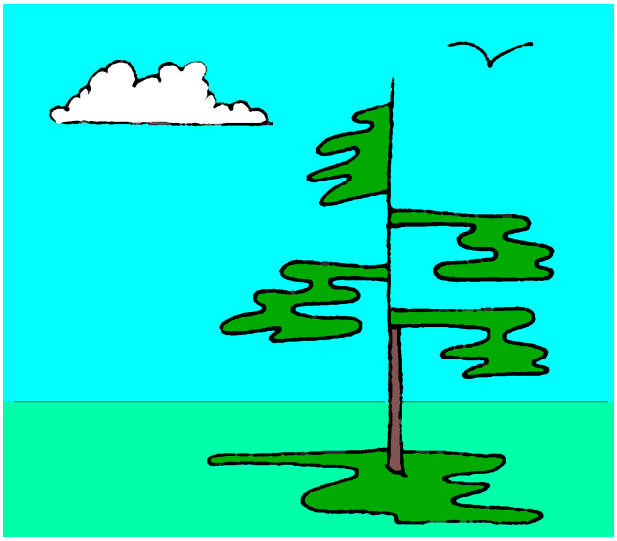
NorthWoods Software



Program Name: Trapezoidal Load

Project Name: Name

Project Number: Number

Project Description: Describe

Project Designer: Dik

Last Revised (yy-mm-dd): 18-09-05

Reference: Reference?

Created using SMath Studio, a MathCAD workalike from https://en.smath.info/view/SMathStudio
The User is responsible to verify data using an alternative method

Menu:

..... Enter Data Space ..... Important Output ..... Logical Constructs Blue Text: Units
..... Summation

Defined Units:

$K := kip$ kilopounds (force)

$kN\_m := kN\ m$ kiloNewton-Metres (Moment)

$Klf := \frac{kip}{ft}$

$ft\_K := kip\ ft$

User Defined Functions

```
Check(arg):=if arg=1
              Check:="...OK"
            else
              Check:="...NG"
```

$Check(2=3) = "...NG"$

$Check(2 \le 3) = "...OK"$

$Check(3 \ge 2) = "...OK"$

$q_a := 0\ Klf$

$q_b := 3\ Klf$

$L := 12\ ft$

$\frac{L}{\sqrt{3}} = 6.93\ ft$ for triangular load

$R_a := \frac{q_a \cdot L}{3} + \frac{q_b \cdot L}{6}$ $R_a = 6.00\ K$

$$R_b := \frac{q_a \cdot L}{6} + \frac{q_b \cdot L}{3} \qquad R_b = 12.00\ \text{K}$$

$$f(x) := \frac{(q_b - q_a)}{2 \cdot L} \cdot x^2 + q_a \cdot x - R_a \qquad f(6.93\ \text{ft}) = 0.00\ \text{K}$$

$$res := \text{solve}(f(x) = 0, x)$$