Example Stress Calculation

Use this stress calculation of a circular column as an example calculation for the *Feel the Stress* activity.

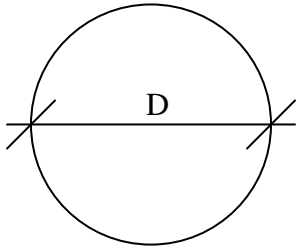**Given:**

$F = Force = 1000N$

$D = Diameter = 1.0m$

$\pi = pi = 3.14$
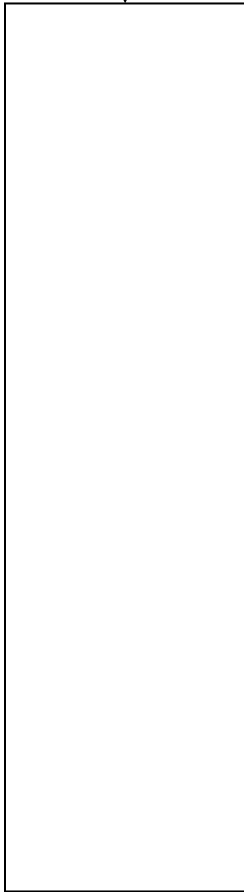
$A = area = \pi \cdot r^2$

$\sigma = stress = \dfrac{F}{A}$

Calculate the area of the column

$$A = 3.14 \cdot \left(\frac{1.0}{2}\right)^2 = 0.785m^2$$

Calculate the stress in the column

$$\sigma = \frac{1000N}{0.785m^2} = 1273.9N/m^2$$

Suggestion: **After this calculation is performed, change the diameter of the column or the force applied, so students can see how it changes.**

Feel the Stress Activity — Example Stress Calculation