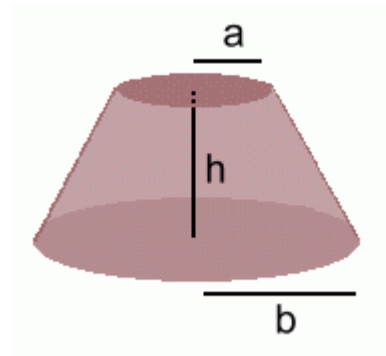# Volume of a Frustum

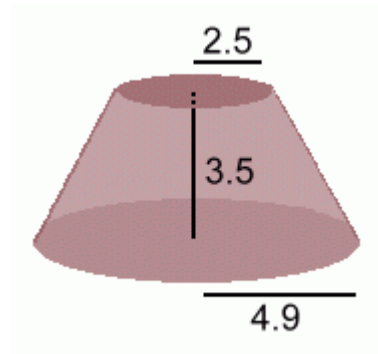In order to calculate the volume of this shape, you will need three measurements:

1. the **height** of the object, labelled **h**
2. the **radius** of the **top**, labelled **a** (this is half the width at the top)
3. the **radius** of the **bottom**, labelled **b** (this is half the width at the bottom)

$$V = \frac{1}{3} \times \Pi \times h \times (a^2 + b^2 + a \times b)$$

Π (PI) = 3.1416

Here's an actual example:

$$V = 0.3333 \times 3.1416 \times 3.5 \times (2.5^2 + 4.9^2 + 2.5 \times 4.9)$$

$$= 155.8 \text{ m}^3$$

If you don't have a calculator with bracket keys, you'll have to work out the part in brackets first. Remember that this formula only works if the pile is circular, and measurements should be made as accurately as possible.

You can multiply the answer in cubic metres by 35.3147 to get cubic feet .