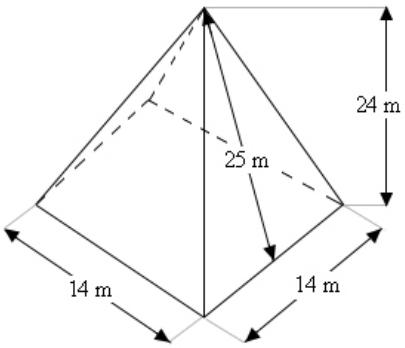
Calculating a pyramid

This task is about working out the surface area and volume of a pyramid.



Area of triangle = $^1/_2$ base × height

Volume of a pyramid = $^1/_3$ area of base × height

An architect designed this modern pyramid building which is 24 metres tall.
It has a square base with each side of the base being 14 metres long.

Calculate the total **area** of the **four** outside faces of the pyramid.
Please show your working.

a)

Total **area** of the outside faces = _____ m^2

Calculate the **volume** of the pyramid.

b)i)

Volume of the pyramid = _____ m^3

Regulations state that each person in the pyramid needs 8 m^3 of airspace.
If the walls take up 48 m^3, calculate the greatest number of people allowed inside the pyramid?

ii)

Maximum number of people = _____

Published on *Assessment Resource Banks* (https://arbs.nzcer.org.nz)