Assignment-1

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(7b.i) volume of model tank = $1000cm^2$

Given height of model building = 80cm
Also the given scale factor is 1:30
$\rightarrow$1 : 30 = Model height : Actual height
$\rightarrow$Actual height = Model height$\times$30
$\rightarrow$ Actual height = 80 $\times$30 = $2400cm$

(7b.ii)

Actual volume of $tank = 27m^2$
and given scale factor is $1 : 30$

$\frac{1}{30} = \frac{modelheight}{actualheight}$
$\frac{1}{30} = \frac{modelwidth}{actualwidth}$
$\frac{1}{30} = \frac{modellength}{actuallength}$

as we know that volume = $length \times width \times height$
so,
$\frac{1}{30*30*30} = \frac{modelvolume}{actualvolume}$

model volume = $\frac{actualvolume}{27000}$
model volume = $\frac{27}{27000} = 0.001m^2$
on converting it into centimeter square = 0.001×10^6