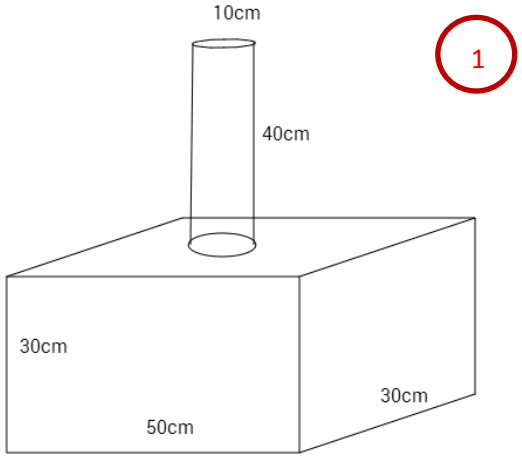
Student 1: Low Excellence

Length of fence surrounding =
110+90+110+90 = 400cm

2



1

Area of sculpture base =50x30 = 1500cm^2
Area of paved area including sculpture base
110x90 = 9900cm^2
Area of paved surface
9900-1500 = 8400cm^2

3

Volume of cylinder
$\pi r^2 \times h = \pi 5^2 \times 40 = 3141.59cm^3$
or $\pi 0.05^2 \times 0.4 = 0.00314m^3$

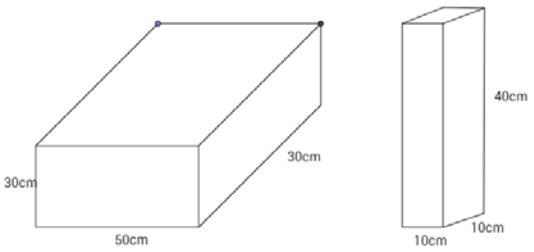
Volume of rectangular prism
50x30x30 =45 000cm^3
or 0.5x0.3x0.3=0.045m^3

4

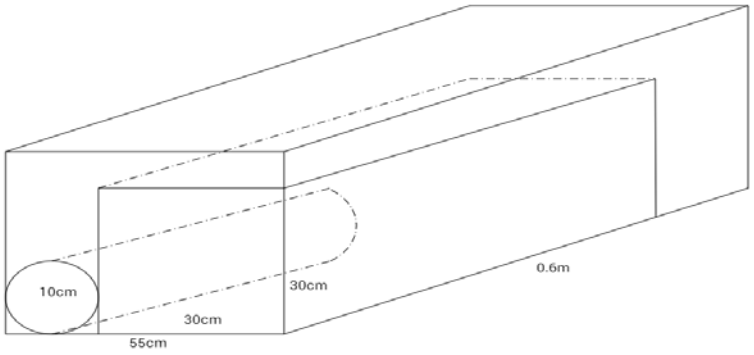
Total volume of sculpture
45000+3141.59 = 48 141.59cm^3
or 0.045+0.00314 = 0.04814m^3

5

Dimensions of blocks required
Cylinder
Rectangular prism=10x10x40=4 000cm^3
Base
Rectangular prism=50x30x30=45 000cm^3



The pieces could be packed side by side so the minimum height would be 30cm
So minimum dimensions 55cmx60cmx30cm
and minimum volume = 99 000 cm^3=0.099m^3
but I think there will be plenty of space at the back and on the side



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