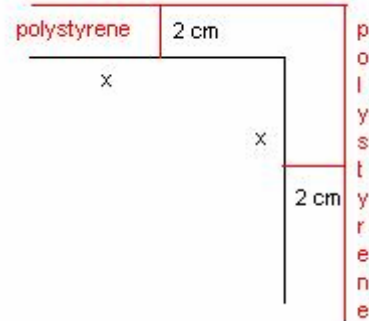
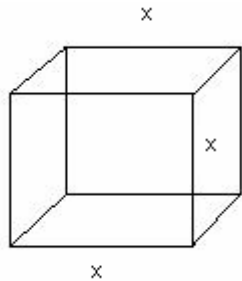


**Alg2 Trig (This was wrong in some solution manuals)**

Problem 1.2 Number 68

68.

(View of the side of the cube when covered with polystyrene)



Volume of the Cube (VC) =  $x^3$

Volume of the cube covered in polystyrene is  $(VC+P) = (x + 4)^3$  since you have the x value + 2 sides each 2cm.

**Therefore:**

$$V_C = x^3$$

$$V_{C+P} = (x + 4)^3$$

$$V_P = V_{C+P} - V_C$$

$$\begin{aligned} V_P &= (x + 4)^3 - x^3 = [(x^2 + 8x + 16)(x + 4)] - [x^3] \\ &= x^3 + 12x^2 + 48x + 64 - x^3 \\ &= 12x^2 + 48x + 64 \end{aligned}$$