1. The distance between centres of two adjacent faces of a cube is 8 cm .

What is the side length of the cube?

2. I can make an equilateral triangle by cutting off the corner of a cube.

If the area of the largest equilateral triangle I can create in this way is $\mathbf{1 4 0} \mathrm{cm}^{2}$, what is the side length of this cube?

3. A third cube has an edge length of $\mathbf{1 2} \mathbf{c m}$.

At each vertex, a tetrahedron with three mutually perpendicular edges of length 4 cm is cut away.

Can you find the volume and the surface area of the remaining solid?


