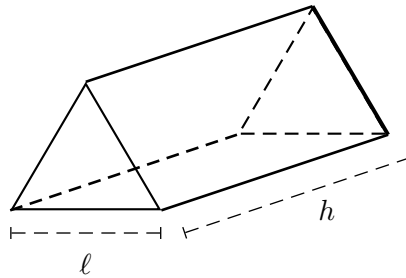**3**. [12 points] Consider the prism with equilateral triangles of side length ℓ centimeters for ends and a length of h centimeters, illustrated below. The volume of this prism is $\sqrt{3}\,\ell^2 h/4$. You may find it useful to note that the area of an equilateral triangle of side length ℓ is $\sqrt{3}\,\ell^2/4$.

a. [4 points] Give the equation of the surface area of this prism, listing units.

Surface area=_____

b. [8 points] If the prism has a fixed volume of 16 cm^3, find the values of ℓ and h which minimize the surface area. Clearly justify that you have found the minimum.