Recall that for a three-dimensional box, with side length a, b and c, the volume is abc, the surface area is $2(ab+bc+ac)$ and the total length of all edges) is $4(a+b+c)$. (If you don't remember this, draw yourself a picture and check it.) Provide an example of two boxes, Box 1 and Box 2, where Box 1 has larger volume than Box 2, Box 1 has larger total edge length than Box 2, but Box 1 has smaller surface area than Box 2.

Let $Box1 = (10, 10, 1)$, and $Box2 = (1.2, 7, 13)$. I'm going to be honest I tried working through the inequalities but not with much luck. I thought by dissecting a cube and recombining it I could optimize for surface area, that works but the additional constraint of edge width left me scratching my head. Ultimately desmos came to save the day, and I just found a pizza box shaped object in the form of Box1 and then played around until I got the signs of subtracted the various measures on the surface from each other.