Circling the Earth

Now that you have made a guess, figure out how to figure it out. Come up with a way to calculate how high the string will be above the earth. You wi want to create a beautiful submission to explain your thinking and convinc someone which answer is correct. Here the problem is again:

A string is wrapped around the Earth's equator and the two ends of the string just exactly touch. Now, suppose that another string is tied to the original string so that it is 100 feet longer.

If this new string is placed around the equator and pulled tight so that it is suspended in the air, evenly, how high will the string be above the ground?

1. It will be barely above the ground at all: you could barely squeeze an atom underneath the string.
2. It will be a little bit above the earth. You could roll a bowling ball underneath, maybe.
3. Maybe a little higher than that. I bet I could stack all the books in my cubby and fit them underneath the string (a foot or two).
4. I think I could walk underneath the string. Maybe even Mr. Postema.
5. I think a tractor-trailer truck on the highway could drive under it (about 13 – 14 feet high).
6. A tree in Church Square Park could fit (a 50-foot tree).

A 9-story building could fit (about 100 feet).