1. How long it would take me to walk from Stony Brook to Madison Square Garden in NYC
   John Wilkes booth killed Abraham Lincoln
   The sun will be up tomorrow
Notice that each one clearly is much more certain than the previous one. You could imagine filling in between with other things, getting a ladder of certainty. This is helpful in weighing what to think when someone tells you that something is true.

2. Light provides the signal for our eyes.
   Sound waves provide the signal for our ears.
   Force provides a signal for our sense of touch.
It was important for this problem to specify which sense which physical phenomenon was feeding.

3. Each zoom is by a factor 1.1 Two zooms give 1.21. Therefore four zooms give 1.46, slightly larger than the square root of 2, which to this accuracy is 1.41. Eight zooms therefore give approximately 2 times 1.07, so seven times is the integer number of zooms closest to a factor 2. One can also use a calculator, take the natural log of 1.1, and divide that into the natural log of 2. The same kinds of estimates give 24 (not 23 as I said in class) for the number of zooms by 1.1 to give a factor 10. The real point from all this is that a zoom of 10 is very large, large enough to shake our intuition. Therefore, between one floor and the next in the Tower of Zoom is a big jump indeed. Because 7 and 24 are both not quite big enough to get to factors 2 and 10, 8 and 25 also would be acceptable, as would 23 because I stated it in class.

4. The smallest distance, 0.1 mm, corresponds to story 46. The largest distance, about 100,000 light years or 10 to-the-power-21 m or story 71, means the height of that part of the tower is 71-46=25 stories. One could argue for another factor 10 or so higher to distant but visible galaxies, giving 26 stories.

5. 7 units, 1 unit. This treats the individual squares as unsquashable atoms.