Name _____   Date _____

Decimals

Complete.

1. If 7.4×10^9 pieces of sand are combined with 4.6×10^9 pieces of sand, how many pieces of sand are there all together? *Enter answers in text boxes.*	2. Lauren has measured some yeast cells she isolated from the surface of grapes. The cells she measured were 11, 16, 15, 18, and 22 micrometers in length. What was their average length in meters? Express your answer using scientific notation.
3. If a micromachine can travel down a microtubule at a rate of 3.7×10^{-3} mm per minute, how many <u>meters</u> could it travel in 2 hours? Express your answer using scientific notation.	4. If the area of a square that has side lengths of 9.6×10^2 cm is decreased by 23%, what is the new side length? Express your answer using scientific notation.
5. Z-Globe is a company that does a little bit of just about everything. They are mostly known as an earth science company but they have been dabbling in nanotechnology recently as well. They are trying hard to catch up to Small World, Inc., which recently announced the fabrication of a nanocube with edges that are a mere 1.6×10^{-6} m in length. As a show of their ability to manipulate such small objects, Z-Globe recently purchased 500 of the nanocubes from Small World, and made a larger cube out of them. What was the total volume in m^3 of Z-Globe's new stacked nanocube?	6. Some chemical compounds are so hard to make in the lab that they can only be synthesized in tiny amounts. Professor Sneed has succeeded in making about 30 picograms of californium hexachloride, an extremely radioactive and unstable compound. After 12 hours, only 14% of the compound remains. How much is left? Express your answer in scientific notation and in grams.