Assign #13 Algebra MP 1 Real-Life Exp Growth/Decay (NO COMPOUNDING) F-LE.A.1

1. You are again the coolest kid so you drink Monster with your PB&J with the crusts cut off at lunch. If you take in 240mg of caffeine with one Monster and your body can clear about 12% of that caffeine every hour, *how long until you only 20mg of caffeine in your system* (the recommended level for a child your age)?

2. Termites are the worst! So expensive is the damage they do. If I estimated there are 1200 termites in the foundation of my house, and termites grow at about 3.5% per day in population, how long until the population doubles?

3. The world population in 2000 was around 6.08 Biliion. The annual rate of increase was about 1.26%. What is the population currently?

4. Computer are another item that depreciate very quickly. A computer that costs $6500(pretty expensive...) depreciates at a rate of 14.3% per year (that's actually not too bad...). What is that computer worth after 3 years?

5. The population of bees in a colony is decreasing at a rate of 3.5% (a phenomenon known as Colony Collapse Syndrome-CCS....it is an un*bee*lievably important situation that very few people talk about, but if the bees die, we die. End of story.) If a colony has 800 bees, how long will it bee until that colony is cut in half? (Now, imagine that happening to all of the bees all around the world.......)

6. A LeBron James rookie card was was purchased as a first edition for $50. It has increased in value at 3% per year. What would it be worth after 20 years (that is when I predict he will retire)?

7. The Shark population is making a come back(after the movie Jaws the population began to get ravaged by fisherman who never paid any attention to them before that. True Story.)!! Duh-nuh, Duh-nuh.... It has been growing at a rate of 2% each year. If there were estimated to be 1573 shark today, how many will there be after a decade?

8. Trucks do not depreciate as quickly as cars because everybody wants a truck... If you bought a new truck for $32,000 and it depreciates at 13% each year, what is it worth in 4 years(assuming you could do it and left it sitting in your garage unused until the end of your senior year)?