

1) In 2007, the population of Manchester was 55,857 people and growing at a rate of 1.4%. Write an equation which gives the population as a function of years since 2007. How many people will there be in 2010? When will there be 60,000 people?

2) The equation $A = 44.248e^{.2231t}$ gives the number of cell phones in the US (in millions) as a function of years since 1996. What is the doubling time of this function?

3) The amount of Carbon-14 after t years is given by $A = A_0 e^{-.000121t}$. A skeleton is found with 95% of the original amount of Carbon-14 remaining, how old is it?