Subject 13   **SEQUENCES**

Please do not write on this exam paper and give it back at the end of the test

Part A :

Tradesmen usually buy sets of different spanners so they have the right tool for the job. The shop assistant noted that the spanners from the English company "DIY Homebase" were heavy . The stated weights of the first five as 115g, 135g, 155g, 175g and 195g and so on.
What does the full set of the first 30 spanners weigh ?

Vocabulary :
tool: outil
spanner : clé plate (outil)
stated : donné

Part B :

Anna, who initially weighs 240 pounds, starts a diet. The first month she loses 36 pounds, the next month 24 pounds and the following month 16 pounds. She continues to lose weight by decreasing by the same ratio each of the following months.

   a. Give a formula that represents the amount of weight lost in a particular month n and find out how much weight she would be expected to lose in month 10 (round your result to the nearest hundredth).

   b. How much would Anna weigh after 10 months on a diet? (Round your result to the nearest hundredth)

   c. If Anna continues on a diet indefinitely what would be the maximum amount of weight she could lose and her final weight? How much is it approximately in kilogram?

   d. Would you say going on such a diet can be dangerous for one's health?