2. [12 points] In order to build a settlement on the island, intruders start cutting down trees at the forest, cutting the trees into logs, and putting the logs in a pile. Let A_n be the number of logs they have in the pile at noon on the n-th day. The intruders have 100 logs in the pile at noon on the first day (so $A_1 = 100$). Every day (between noon on one day and noon on the next day), the building team uses 10% of the logs in the pile, while the log-cutting team adds 20 logs to the pile immediately before noon.

a. [4 points] Find A_2 and A_3. **You do not need to simplify your answers.**

b. [5 points] Find a **closed form** expression for A_n. Closed form means your answer should not include ellipses or sigma notation, and should NOT be recursive. **You do not need to simplify your closed form answer.**

c. [3 points] How many logs will the intruders have in the pile in the long run?