
9. ( 6 pts ) The chambered nautilus builds a spiral sequence of closed chambers. It constructs them from the inside out, with each chamber approximately $20 \%$ larger (by volume) than the last. (The large open section at the top is not a "chamber.") The largest chamber is 9 cubic inches. How much volume is enclosed by all the chambers? Assume for simplicity that there are infinitely many chambers. Show your work.

