1. Grade school algorithm for 1234 * 5678
    a. 1234 * 8 = 9872
    b. 1234 * 7 = 8638
    c. 1234 * 6 = 7404
    d. 1234 * 5 = 6170
    e. Add: 9872 + 86380 + 740400 + 6170000 = 7006652
2. (answers)
    a. This computation took 5 steps
    b. A step is defined as any computations done such as addition or multiplication.
    c. The number of steps is a good indicator of the time it takes an algorithm to run
    d. Both while and recursive loops should work.
    For a <u>while loop</u>, I can have a variable called “sum” that starts at 0. While there are more digits in the second number, I continue multiplying each digit to the first number and add them to “sum”, with the appropriate multiple of 10’s, until I run out of digits (in this case, I start at 8 and end at 5).
    For a <u>recursive loop</u>, it can be similar to the while loop with a variable called “sum” that starts at 0. The base case will be if the second number doesn’t have any more digits. Each recursive call, we input the first number and a digit of the second number and add them to “sum”, with the appropriate multiple of 10’s.