Question 1 Write your own R function or loop to find all the integers that are smaller than $N = 63445$ and can be divided by $a = 89$ or $b = 107$ and calculate the sum of square roots of them.
For example, for $N = 7, a = 2, b = 3$, you need to calculate $\sqrt{2}+\sqrt{3}+\sqrt{4}+\sqrt{6}$.

Type your answer here _____

Question 2
What is the shape of the Q-Q plot of the t1ratio in Lab 4? Choose all that are correct.

- A. curve bends downwards (below qqline) at the lower end
- B. curve bends at lower end but is otherwise close to a straight line
- C. curve bends downwards (below qqline) at the upper end
- D. curve bends at both ends
- E. curve bends at upper end but is otherwise close to a straight line
- F. close to a straight line
- G. curve bends upwards (above qqline) at the lower end
- H. curve bends upwards (above qqline) at the upper end
- I. None of the above

Question 3
For the simulation in Lab 4, produce a Q-Q plot for the residuals variance ($sigmahat^2 in Lab 4 material$). *What is the shape of the plot? Choose all that are correct.*

- *A. curve bends upwards (above qqline) at the upper end*
- *B. curve bends downwards (below qqline) at the lower end*
- *C. curve bends at upper end but is otherwise close to a straight line*
- *D. curve bends at lower end but is otherwise close to a straight line*
- *E. close to a straight line*
- *F. curve bends upwards (above qqline) at the lower end*
- *G. curve bends at both ends*
- *H. curve bends downwards (below qqline) at the upper end*
- *I. None of the above*

Question 4
What will happen to Q-Q plots in Question 2 and 3 if we change the sample size (n in Lab 4) to 1000 while keeping all the other parts the same?

- *A. The curve is close to a straight line in Question 2 (t distribution), but not Question 3 (chi-square distribution)*
- *B. Cannot decide*
- *C. Does not change*
- *D. The curve is close to a straight line in both Question 2 (t distribution) and Question 3 (chi-square distribution)*
- *E. The curve is close to a straight line in Question 3 (chi-square distribution), but not Question 2 (t distribution)*

Answer(s) submitted:

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(incorrect)