Task

Lucia's calculator gives a value of

\[ 3.14159265 \]

for \( \pi \).

a. Is the equation

\[ \pi = 3.14159265 \]

valid? Explain.

b. When Lucia computes \( \pi^2 \) on her calculator, using the \( \pi \) and square buttons, it shows

\[ 9.86960440. \]

On the other hand, when she calculates \((3.14159265)^2\) on her calculator it shows

\[ 9.86960438. \]

Explain why the calculator shows different answers for what appears to be the same quantity.