**Problem Definition**

Problem 63. Determine whether or not the following equation is true or false.

\[ \ln(x)^{1/2} = \frac{1}{2} \ln(x) \]

**Solution Step 1:**

This statement is not true. To disprove a statement we only need one example where the statement is false. If we check the point \( x = e^2 \), we find the following.

\[
\frac{1}{2} \ln(e^2) = \frac{1}{2} (2) \ln(e) = \ln(e) = 1
\]

and

\[
\ln(e^2)^{1/2} = (2)^{1/2} \approx 1.414
\]

Since the two values are not equal the expression cannot be true in general.