Mathematics 122

Quiz #22

(1) Use your calculator to find \( \int_{-1}^{3} (x^2 + x + 1) \, dx \)

(2) Use your calculator to find \( \int_{-3}^{2} e^{x^2 + 1} \, dx \)

(3) Use the interpretation of the integral as the area under the graph to explain why for any positive constant \( C \) and any \( a < b \) that

\[
\int_{a}^{b} C \, dx = C(b - a).
\]

Hint: Graph \( y = C \) and recall that you know how to find the area of a rectangle.