Additional Questions for Homework on Section 4.2.

For each of the following, can the Mean Value Theorem be applied on the following function with the associated interval? Explain why or why not. If the Mean Value Theorem applies, then state what the Mean Value Theorem would allow you to conclude.

A. \( f(x) = -x^2 + 2x \) on \([0, 2]\)

B. \( g(x) = \tan x \) on \([0, \pi]\)

C.

\[
\begin{array}{c}
\text{y} \\
\text{\quad \quad -} \\
\text{\quad \quad a} \\
\text{\quad \quad b} \\
\quad \quad \quad \quad x
\end{array}
\]

D.

\[
\begin{array}{c}
\text{y} \\
\text{\quad \quad -} \\
\text{\quad \quad a} \\
\text{\quad \quad b} \\
\quad \quad \quad \quad x
\end{array}
\]