PROBLEM

Let the function $f(x)$ be defined as follows:

$$f(x) = \begin{cases} x^3 + x^2 - 10x, & -1 \le x < 0 \\ \cos x, & 0 \le x < \pi/2 \\ 1 + \sin x, & \pi/2 \le x \le \pi \end{cases}$$

Then $f(x)$ has

a. a local minimum at $x = \pi/2$
b. a global maximum at $x = \pi/2$
c. an absolute minimum at $x = -1$
d. an absolute maximum at $x = \pi$

SOLUTION

c.