CALCULUS
Properties of the definite integral
NEW
Which of the following is true?

a. \[ \int_{\pi/2}^{3\pi/2} \cos^7 x \leq 0 \]

b. \[ \int_{\pi/2}^{3\pi/2} \cos^7 x \geq 0 \]

Explain your choice, invoking the properties of integrals.
Which of the following is true?

a. \( \int_{-3}^{-2} e^{-x} \, dx \leq \int_{-3}^{-2} e^{-2x} \, dx \)

b. \( \int_{-3}^{-2} e^{-x} \, dx \geq \int_{-3}^{-2} e^{-2x} \, dx \)

Explain your choice, invoking the properties of integrals.