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

a. \( \int_{\pi}^{2\pi} \sin^5 x \leq 0 \)

b. \( \int_{\pi}^{2\pi} \sin^5 x \geq 0 \)

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

a. \[ \int_{2}^{3} e^{-x} \, dx \leq \int_{2}^{3} e^{-2x} \, dx \]

b. \[ \int_{2}^{3} e^{-x} \, dx \geq \int_{2}^{3} e^{-2x} \, dx \]

Explain your choice, invoking the properties of integrals.