CALCULUS
Properties of the definite integral
OLD2
0630-1.
Which of the following is true?

a. \( \int_{2\pi}^{3\pi} \sin^5 x \leq 0 \)

b. \( \int_{2\pi}^{3\pi} \sin^5 x \geq 0 \)

Explain your choice, invoking the properties of integrals.
0630-2.

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.