CALCULUS Properties of the definite integral OLD

Which of the following is true?

a.
$$\int_{\pi}^{2\pi} \sin^5 x \le 0$$

b.
$$\int_{\pi}^{2\pi} \sin^5 x \ge 0$$

Explain your choice, invoking the properties of integrals.

630-2. Which of the following is true?

a.
$$\int_{2}^{3} e^{-x} dx \le \int_{2}^{3} e^{-2x} dx$$

b.
$$\int_{2}^{3} e^{-x} dx \ge \int_{2}^{3} e^{-2x} dx$$

Explain your choice, invoking the properties of integrals.