UNIT 5 WORKSHEET 4
Identify each of the following exponential functions as being growth or decay.

A) \( f(x) = 3^{x-4} + 1 \)  
B) \( f(x) = \left( \frac{2}{3} \right)^x + 1 \)  
C) \( f(x) = 2^{3-x} - 5 \)

D) \( f(x) = \left( \frac{3}{7} \right)^x + 16 \)  
E) \( f(x) = e^{2x-1} + 2 \)  
F) \( f(x) = \left( \frac{1}{e} \right)^{x-3} \)

G) \( f(x) = \left( \frac{4}{7} \right)^{5-x} + 3 \)  
H) \( f(x) = \left( \frac{4}{5} \right)^{x-1} + 2 \)  
I) \( f(x) = -2^{x+1} \)

Below are the graphs of the following functions.

\[
f(x) = \left( \frac{1}{2} \right)^x \quad f(x) = 2^{-x}
\]

Explain why the graphs for \( f(x) = \left( \frac{1}{2} \right)^x \) and \( f(x) = 2^{-x} \) are identical. (Hint, properties of exponents.)