UNIT 5 WORKSHEET 4

Identify each of the following exponential functions as being growth or decay.

A) $f(x) = 3^{x-4} + 1$

B) $f(x) = \left(\dfrac{2}{3}\right)^{x} + 1$

C) $f(x) = 2^{3-x} - 5$

D) $f(x) = \left(\dfrac{3}{7}\right)^{x} + 16$

E) $f(x) = e^{2x-1} + 2$

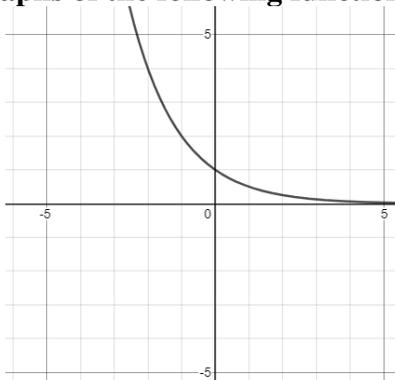**F)** $f(x) = \left(\dfrac{1}{e}\right)^{x-3}$

G) $f(x) = \left(\dfrac{4}{7}\right)^{5-x} + 3$

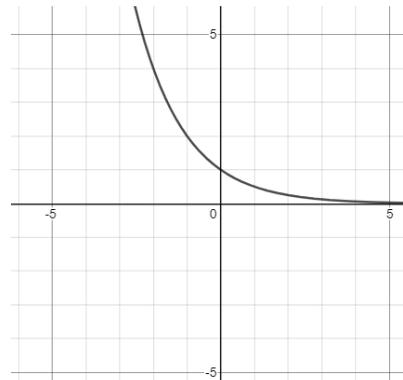**H)** $f(x) = \left(\dfrac{4}{5}\right)^{x-1} + 2$

I) $f(x) = -2^{x+1}$

Below are the graphs of the following functions.

$f(x) = \left(\dfrac{1}{2}\right)^{x}$

$f(x) = 2^{-x}$

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