

Worksheet 9/9/2024

1) Use the Law of Exponents to simplify the following expressions.

a) $2x^0$

b) $\frac{x^{-4}}{x^{-9}}$

c) $\frac{3x^2y^{-3}}{12x^6y^3}$

d) $\left(\frac{-2a^2b^2c^0}{3a^2b^3c^7}\right)^{-2}$

2) Which of number is bigger?

a) e^2 and 2^e

b) 2^x and 3^x

c) 2^{-x} and $\left(\frac{1}{2}\right)^x$

3) Find the domain of the function $f(x) = \frac{x}{(2^{x+1}-1)(3^x-\frac{1}{9})}$

4) Based on the graph of 2^{-x} , graph the function $f(x) = 3 - 2^{-x}$. Find its domain and range.