Name: _____

Chapter 5 – Section 5.1 Logarithms and their Properties

TICKET-IN-THE-DOOR

In order to be prepared for class you must watch the module and complete the following activity. This is due first thing when you get to class.

In your <u>own words</u> – what is a **log**arithm?

Check your understanding:

1. **Expand** the following expression using properties of logarithms.

   a. $\log \frac{a^6 b^3}{c^4}$

   b. $\ln\left((-5m-3)\sqrt{-4m-7}\right)$

2. **Evaluate** the following <u>without</u> a calculator. (Be prepared to evaluate without a calculator on exams!)

   a. $log\ 0.001 + log\ \frac{1}{\sqrt{10}}$

   b. $lne^5 - ln\left(\frac{1}{\sqrt{e}}\right)$

3. **Express** the following **in terms of *x*** <u>without logs</u>

   a. $1000^{\log x}$

   b. $e^{\ln(3x+2)}$

4. **Solve** the exponential equation: $e^{2x} + e^{2x} = 1$