Name: _____

Chapter 10 – Section 10.1 Composition of Functions

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.

Check your understanding:

1. Given $f(x) = \frac{3}{x}$ and $g(x) = x^4 - 1$, what is $g(f(x))$?

2. Let $m(x) = e^x$ and $n(x) = \frac{x^6}{x+1}$. Does $n\big(m(x)\big) = \frac{e^{6x}}{e^x+1}$?

3. Write two functions $u(x)$ and $v(x)$ such that $f(x) = \frac{4x^2+1}{12x^2} = u(v(x))$.

4. Give a **practical interpretation in words** of the following composite functions.
   a. $f\big(h(t)\big)$, where $A = f(r)$ is the area of a circle of radius r and $r = h(t)$ is the radius of the circle at time t.

   b. $R\big(Y(q)\big)$, where R gives a farmer's revenue as a function of corn yield per acre, and Y gives the corn yield as a function of the quantity, q, of fertilizer.