Name: _____

Chapter 11 – Section 11.2 Polynomial 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.

Define a **polynomial** function.

Check your understanding:

1. Thinking of the long-run behavior, state the **degree**, and the **end behavior** of each graph below.
   a. $y = 2x^2 - 3x + 7$

   b. $y = (x - 3)(x + 2)(x^2 + 3x - 5)$

   c. $y = -x^4 - 3x^3 - 2x + 1$

2. Let $f(x) = -2x^3 - 5x^2 + 8$. Which of the following **statements** are <u>true</u>?
   i. As $x \to \infty$ $f(x) \to -\infty$
   ii. As $x \to \infty$ $f(x) \to \infty$
   iii. As $x \to -\infty$ $f(x) \to -\infty$
   iv. As $x \to -\infty$ $f(x) \to \infty$