Name: _____

Chapter 11 – Section 11.5 The Short-Run Behavior 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.

Describe in words how to find:

- Zeros of the rational function
- Vertical asymptote
- Horizontal asymptote

Check your understanding:

1. For the given rational function $f(x) = \frac{x^2-9}{x^2+6x}$ find the following, if possible.
   a. *x*-intercept(s)
   b. *y*-intercept
   c. Vertical asymptotes
   d. Horizontal asymptotes

2. For the given rational function $f(x) = \frac{x}{x^2-3x+2}$ find the following, if possible.
   a. *x*-intercept(s)
   b. *y*-intercept
   c. Vertical asymptotes
   d. Horizontal asymptotes

3. **Construct** a **rational function** that has a graph with vertical asymptotes at $x = 3$ and $x = 5$, a horizontal asymptote at $y = 1$, and *touches* the *x*-axis at $x = 2$.