

Name _____

Exam ID: _____

MAT16B Written Assignment
Due Wednesday, 10/7

Read, Reflect, and React (or Respond) Prompt #4

Integrals is one of the basic tools of calculus, with numerous applications in science and engineering. The founders of calculus thought of the integral as an infinite sum of rectangles of infinitesimal width, which lead to its initial use of calculating geometric quantities such as area and volume. More generally, integrals can be used as a way to totalize any given rate over a range of quantities, which has made it useful in many disciplines. These uses range from engineers finding centers of mass to statisticians finding averages. Today, I presented an example based on the number of points Stephen Curry accumulated over his NBA career. I would like you to think of your own example by answering the following:

1. Provide a problem which utilizes an indefinite integral that is connected to your life. Clearly state the meaning, including units, behind the function $f(x)$ and the resulting integral. Solving is optional.