June 15th, 2021 **Name** _____

SWMS- Worksheet 3 in Probability and Statistics

1. Using `R` and Riemann sums, obtain an approximation of the following integrals and show that the approximation goes to 0 as n increases:

   (a) $\int_0^1 \sin(50x)\log(x^2+10)dx$

   (b) $\int_0^{10} x^{15}e^{-5x}dx$

   (c) $\int_0^{100} x^{15}e^{-5x}dx$

2. Using `R` and random Uniform draws, obtain an approximation of the following integrals and show that the approximation goes to 0 as n increases:

   (a) $\int_0^1 \sin(50x)\log(x^2+10)dx$

   (b) $\int_0^{10} x^{15}e^{-5x}dx$

   (c) $\int_0^{100} x^{15}e^{-5x}dx$