Handout

Lucie Lu

August 14 2018

Section 2:
Practices:

1. $$\int 8x dx =$$

2. $$\int 6x^2 dx =$$

3. $$\int x^3 dx =$$

4. $$\int e^x dx =$$

Section 3:
Example I: Uniform Distribution Suppose $f : \Re \to \Re$, with

$$\begin{aligned} f(x) &= 1 if x \in [0,1] \\ f(x) &= 0 otherwise \end{aligned}$$

What is the area under $f(x)$ from $[0, \frac{1}{2}]$?

Example II: Area Under a Line
Suppose $f : \Re \to \Re$, with

$$f(x) = x$$

Evaluate the $\int_2^t f(x)dx$.

Section 4: Integrals and Distributions
What's the next step to calculate the area under the curve when x $\geq$ 1.96? Please fill in the blank.

$$\int \qquad f(x) = \int \qquad \frac{1}{2\pi} e^{-\frac{x^2}{2}} = 0.025$$