

Worksheet 10

SI with Ian

Week of April 28th

Feel free to use notes and other resources, however, please do not use online calculators. Also if you are printing this worksheet out before hand (thank you) please wait to complete the worksheet until the SI session.

1 Definite Integrals

Evaluate each of the following integrals

1) $\int_1^6 12x^3 - 9x^2 + 2 \, dx$

2) $\int_{-2}^1 5z^2 - 7z + 3 \, dz$

3) $\int_0^{\frac{\pi}{2}} 7 \sin t - 2 \cos t \, dt$

2 Fundamental Theorem of Calculus

4) Write out both parts of the Fundamental Theorem of Calculus.

5) Using the FTOC evaluate: $\int_0^{10} 60x - x^2 \, dx$

6) Let $f(x) = 5 \cos x$ and consider the interval $[\frac{\pi}{2}, \pi]$. Find the net Area under the curve.

7) Find the points on $(0, 1)$ at which $f(x) = 2x(1 - x)$ equals its average value on $[0, 1]$.