**Harold’s Fundamental Theorem of Calculus**

**Cheat Sheet**

29 March 2024

**The First Fundamental Theorem of Calculus: Integrating Derivatives**

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| **Formula** | **Example** |
| Upper Bound Minus Lower Bound Formula  How to find the area under a curve? | StudyPug | **Solve:**  1st FToC Formula  Identify functions  Plug into formula |

**The Second Fundamental Theorem of Calculus: Differentiating Integrals**

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| **Formula** | **Example** |
| Simple Formula  General Formula | **Solve:**  2nd FToC General Formula  Identify functions  Substitute  Differentiate  Plug into formula |
| **Proof:**  a) Apply the First Fundamantal Theorem of Calculus  b) Distribute  c) Chain rule  d) Simplify  e) Substitute |