**Harold’s Fundamental Theorem of Calculus**

**Cheat Sheet**

23 April 2024

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

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| **Formula** | **Example** |
| Upper Bound Minus Lower Bound FormulaHow to find the area under a curve? | StudyPug |  **Solve:**1st FToC FormulaIdentify functionsPlug into formula |

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

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| **Formula** | **Example** |
| Simple FormulaSingle Function FormulaGeneral Formula |  **Solve:**2nd FToC General FormulaIdentify functionsSubstituteDifferentiatePlug into formula |
| **Proof:**a) Apply the First Fundamental Theorem of Calculusb) Distributec) Chain ruled) Simplifye) Substitute |