**Calculus I – MTH 181**

**Cleveland State University | Math Learning Center**

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| **Derivative Definition** | **Common Derivatives** | **Antiderivative Definition**  if , then |
| **Basic Properties of Derivatives**  (𝑓(𝑥)+𝑔(𝑥))′=𝑓′(𝑥)+𝑔′(𝑥) | **Basic Properties of Antiderivatives** |
| **Mean Value Theorem (MVT)**  If is differentiable on the interval and continuous at the end points, there exists a *c* in such that: | **Fundamental Theorem of Calculus**  Let be continuous on the interval and be any antiderivative of : |
| **Product Rule** | **Power Rule**  Such that |
| **Quotient Rule** | **Common Antiderivatives** |
| **Chain Rule** |
| **Limit Evaluation Method**  If the power of is equivalent in the numerator and denominator and the limit is evaluated as approaches , then use the coefficients on the highest power of : | | ***u*-Substitution**  Let:  Such that:  And: |
| **L’Hôpital’s Rule** | |

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