MAT 136 (Calculus I) Prof. Swift
In-class worksheet: The Indefinite Integral

1. Evaluate $\frac{d}{dx}[x^3 + 2x^2 + 3x + 4]$ $= 3x^2 + 4x + 3$

2. Evaluate $\int 3x^2 + 4x + 3 \, dx$ $= x^3 + 2x^2 + 3x + C$

3. Evaluate $\int x^5 + x^3 + x \, dx$ $= \frac{x^6}{6} + \frac{x^4}{4} + \frac{x^2}{2} + C$

4. Evaluate $\frac{d}{dx}[x \sin(x)]$ $= 1 \sin(x) + x \cos(x)$

5. Evaluate $\int \sin(x) + x \cos(x) \, dx$ $= x \sin(x) + C$