Calculus Section 5.5 Bases Other Than e
-Differentiate exponential/log functions that have bases other than e
-Integrate exponential/log functions that have bases other than e

Homework: page 362 #’s 37-47 odd, 59, 71-81 odd

**Derivatives for Bases Other Than e**Let *a* be a positive real number (a ≠ 1) and let *u* be a differentiable function of x.

1.  2) 

**Proof: Proof:**

**Examples)**1) $\frac{d}{dx}\left[5^{x}\right]$ 2) $\frac{d}{dx}\left[2^{3x}\right]$

3) Write the equation for the line tangent to y = x2(4x) at the place where x = 1.

4) Find the 2nd derivative of f(x) = 3x

5) y = log10cosx 6) y = log53x

**Integrals for Bases Other Than e**Let *a* be a positive real number (a ≠ 1) and let *u* be a differentiable function of x.



**Proof:**

**Examples**
1)  2)  3) 