MATH 2554 : 3.2-3.3 Review Sheet

Some Problems I recommend

— Section 3.2 : 24a, 26a, **30a**

— Section 3.3 : 12, 13, **14**, 16, 25, 26, 30, 34, 45, 64, 66

Especially important ones in **bold**

Key Concepts

Definition of the Derivative :

$$f'(x) = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

Equation of Tangent Line :

$$y - y(a) = m_{tan}(x - a)$$

Basic derivative Rules :

1. $\dfrac{d}{dx} c = 0$

2. $\dfrac{d}{dx} f(x) + g(x) = f'(x) + g'(x)$

3. $\dfrac{d}{dx} f(x)g(x) = f'(x)g(x) + f(x)g'(x)$

4. $\dfrac{d}{dx} cf(x) = cf'(x)$

5. $\dfrac{d}{dx} f(x) - g(x) = f'(x) - g'(x)$

6. $\dfrac{d}{dx} x^n = nx^{n-1}$

Basic derivative forms :

1. $\dfrac{d}{dx} e^x = e^x$