

Name \_\_\_\_\_

### Calculus Review Sheet

1) Find the average value of the function  $y = x^3 - 5x$  over the interval  $[-2, 3]$

2) Find the average value of the function  $f(x) = \sin x$  over the interval  $[\pi, 2\pi]$

3) Evaluate the following integral:

$$\frac{d}{dx} \int_0^x (6m^2 + 4m^5) dm$$

4) Evaluate the following integral:

$$\frac{d}{dx} \int_x^0 (4y^3 - 2y) dy$$

5) Find the area between the curves  $y = x^2 + 3$  and  $y = x + 1$  over the interval  $[1, 3]$

6) Find the area between the curves  $y = x^2$  and  $y = 3x$ , you find the interval.