

# CALCULUS 2: TEST 1 REVIEW SHEET

## Ch 0.6.1 Substitution

- Many of the techniques we use for this test (and later tests as well) require use of this rule
- See examples from in class and from Chapter 0 p. 38 #7 (cover up the hints!), 8bh

## Ch 0.6.2 Integration by Parts

- Choose  $u$  by LIATE!
- See examples from in class and from Chapter 0 p. 38 #7 (cover up the hints!), and [Integration by Parts Worksheet](#)

## Ch 1.1 Arc Length

- See examples from in class, webassign #1-6, [Arc Length Worksheet](#)

## Ch 1.2 Average Value

- You should know the formula and the Mean Value Theorem
- See examples from in class and Chapter 1 p. 23 #1,5,9

## Ch 1.3 Applications of Integration in Engineering and Physics

- Spring Problems (Know Hooke's Law and how to find Work. See examples from in class, recitation, and [Spring Worksheet](#) )
- Work to pump fluid from a tank (See examples from in class, recitation, Chapter 1 p. 43-44 #5-7, and [Work Emptying a Tank Worksheet](#))
- Work Lifting Ropes, etc (See examples from in class, recitation, and [Work Lifting... Worksheet](#)
- Hydrostatic Force (See examples from in class, recitation, and [Hydrostatic Force Worksheet](#)

- Moments & Centers of Mass (See examples from in class and recitation)