Main Exercises Week 5

MATH 131: Calculus II, Section 2 and 3   Your Name (Print): _____

Follow the general guidelines for the Main Exercises assignments (the salmon colored handout). Be sure to **staple** together your pages if you have more than one, and include your **name** at the top. Be **NEAT** and **SHOW YOUR WORK**!!!

Due: at the beginning of class on Friday, October 2nd

Remember: Your write-up should be **your own**. You may discuss these problems with others, but **you should be alone when you write them up**, using only outlines of any group or Intern discussions.

1. Do problem 14 from Section 6.1 in the text (page 407). For part (a), you may answer the question by graphing or by doing a number line as we did for functions involving absolute values. For part (b), use u-substitution to solve, NOT a fancy formula! Add a part (d): find the position function for $t \geq 0$ **using Theorem 6.1** on page 401. This is a great application of the Fundamental Theorem of Calculus! Reread the introduction above the statement of the theorem!

2. Find the area of the region bounded by $y = \arcsin x$, $y = \dfrac{1}{5}x$ and $x = 1$. (Refer to page 45 of our text if you do not remember how to graph the arcsine function.) Think very carefully about how to set this up. Should you do it in terms of x or y? Do we know how to evaluate the resulting integrals of each? (DO NOT use methods we have not yet learned in this course!!!)