

Main Exercises Week 3

MATH 130: Calculus I, Section 2 & 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. Neatness is appreciated, makes a good first impression, and can earn you a bonus point!!!

Due: at the beginning of class on Friday, February 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. **EXPLAIN** and **SHOW YOUR WORK!!!** Final answers will not receive full credit without supportive explanations. You may use your own paper on which to write these up.

1. Assume $\log_a x = 0.21$, $\log_a y = 0.57$ and $\log_a z = 0.42$. Evaluate $\log_a \frac{a^3 x^{\frac{5}{6}}}{\sqrt{yz}}$. Be sure to show your steps clearly!

2. Solve $\sin^2 \theta - 1 = 0$ for $0 \leq \theta \leq 2\pi$. Be sure to show your steps clearly!

3. Assuming $x > 0$, simplify the following: $\cos \left(\arctan \left(\frac{x}{\sqrt{36 - x^2}} \right) \right)$.