

MAT 1120 - Exam 2

NAME: _____

Show work for partial credit. I have more scrap if you need it. I'm rooting for you!

Work each problem showing all steps for partial credit. Set up and fill in with numbers but do NOT evaluate nor simplify. CIRCLE YOUR ANSWERS so I can find them.

1. For various figures and functions...
 - (a) Roughly sketch the region and a slice
 - (b) Show reasoning and sketches to solve for any lengths, areas or volumes using similar triangles, Pythagorean theorem, or more. Label components in terms of a given variable.
 - (c) Set up the integral that gives the ... [area, volume, density, or work]
 - (d) (LG 2) Identify geometric/physical components
 - (e) (LG 1) What is the main integration method we would use to integrate? Circle one.
2. Write out the partial sums of...
3. **For sequences** EXPLAIN or SHOW WORK documenting why your answer is correct:
 - (a) write "sequence." does it converge or diverge, and why?
 - (b) what is the limit if it converges?
 - (c) show work for L'Hôpital's Rule if it applies.

For series EXPLAIN or SHOW WORK documenting why your answer is correct:

 - (a) (LG 3) choose a series test we can successfully use on it from among geometric series, terms not going to 0, linearity, or integral test and write the name of the test
 - (b) fully document why the series test works, including any assumptions
 - (c) specify whether the series converges or diverges, and why
4. Explain what is wrong with the following statement...
5. Explain the mathematics in this visual or comic.
6. One of the four main educational goals at Appalachian is local to global perspectives, and it is also a theme in Calculus II. Name an instance in our class where local perspectives were important in understanding the global perspective, and specify what is local and what is global in your example.