

Section 2.7: Precise Definitions of Limits

MATH 130: Calculus I

Due: Friday, February 1, 2019 at 12:20pm

Name (Print): _____

After reading pages 116-121 of Section 2.7 (note that this is not the whole section!), respond to the following questions **on this handout**. Be sure to staple your pages together before turning it in. **You must answer all parts to all questions to earn full credit!!!** See the salmon homework guidelines handout for details. You are encouraged to take additional notes wherever you are keeping your class notes.

Response Section

1. Recall that absolute values represent distances. Thus the x for which $|x - 2| < 3$ is true, are all the x that are distance at most three away from 2. Draw a number line and illustrate the values of x on this number line for which this is true.

2. Draw the diagram in Figure 2.60 (b), including all the labels. Be sure to illustrate the shaded areas which are highlighting distance from particular x and y values.

3. Copy the precise definition of a limit shown on page 118.

4. Note that “A whenever B” is the same as “If B, then A”. Rewrite the last line of the previous definition in “if-then” form instead of “whenever” form.

5. Does the set $\{x : 0 < |x - a| < \delta\}$ include the point $x = a$? Explain your answer carefully using full sentences.

Questions/Exercise Section

6. Write down at least two questions you have on the reading. OR if you have NO questions, do exercise 10 in Section 2.7 (page 124). For a full solution of exercise 10, include two copies of the graph (one for each part of the problem) and shade the appropriate region as in Figure 2.60. See the salmon homework guidelines handout for details.

Reflection Section

7. Write **two or three** sentences reflecting on the process of your recent work in the course. See the salmon homework guidelines handout for details.

Time Section

8. How much time did you spend on this reading assignment? _____