

MATH 1710.200 - Homework 1

Due: 9/7/16

Section 2.1

Textbook problems 15, 20, 23, 25, 29, 30

Section 2.2

Textbook problems 1, 2, 5, 7, 12, 24, 28, 29

1. The *ceiling* function is defined by $\lceil x \rceil = n$ where n is the unique integer so that $n - 1 < x \leq n$. For example, $\lceil 3.25 \rceil = 4$, since 4 is the least integer still greater than 3.25.

- (a) Sketch a graph of $y = \lceil x \rceil$.
- (b) If a is an integer then find $\lim_{x \rightarrow a^+} \lceil x \rceil$ and $\lim_{x \rightarrow a^-} \lceil x \rceil$.
- (c) For what values (if any) does $\lim_{x \rightarrow a} \lceil x \rceil$ exist?

Section 2.3

Textbook problems 11, 18, 30, 39, 45, 53, 57, 66, 68, 86