

MATH 1710.200 - Homework 5

Due: 10/5/16

1. The key theorem from section 3.5 was that

$$\frac{d}{dx}(\sin x) = \cos x$$

and

$$\frac{d}{dx}\cos x = -\sin x$$

The proof of these facts used the following limits (Theorem 3.9)

$$\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$$

$$\lim_{x \rightarrow 0} \frac{\cos x - 1}{x} = 0$$

Please read the proof of Theorem 3.9 in the textbook.

2. Textbook 3.5 # 11, 15, 16, 19, 20, 22, 24, 30, 41, 43, 49
3. Textbook 3.6 # 16, 20, 25, 43, 44
4. Textbook 3.7 # 19-29, 34, 35, 50, 52, 54, 84, 91