MATH 1042 REVIEW PROBLEMS FOR TEST 2 Fall 2016

1. Text: James Stewart, Calculus, Early Transcendentals, 8th Edition, Cengage learning.

2. Math 1042 ADDITIONAL Homework Problems

7.3: 1, 2, 3, 4, 8, 12, 13, 37, Example 1 on page 486.

7.4: 1, 2, 3, 17, 19, 23, 28, 64, 65, 66a

7.5: 16, 37

7.8: 1, 2 (in 1 and 2 also present each improper integral as a limit of a proper integral), 5, 9, 17, 23, 24, 35, 43, 45 (in 45 also find the volume of the solid generated by revolving the given region about x-axis), 50, 52

Review Chapter 7: True-False Quiz: 1, 2, 3, 4, 6, 14; Exercises: 10, 11, 18, 41, 43, 71

11.1: 23, 26, 27, 29, 30, 32, 35, 38, 39, 47, 48, 49, 50, 51, 55, 56

11.2: 3, 4, 15, 22, 23, 24, 25, 26, 33, 34, 39, 46, 47, 67; **A11:** 3a

11.3: 5, 7, 8, 9, 17, 21

11.4: 1, 2, 3, 7, 8, 12, 13, 15, 23, 24; **A11:** 5ab

11.5: 5, 6, 7, 9, 13

11.6: 3, 31, 37, 38

Review Chapter 11: Concept Check: 1, 3, 5(a-e), 6; Exercises: 1, 2, 6, 7, 8, 15, 27, 29,

1.	Following integrals can be used without work.
	$\int \frac{1}{a^2 + x^2} dx = \frac{1}{a} \tan^{-1} \frac{x}{a} + C, \qquad \int \tan x dx = \ln \sec x + C, \qquad \int \sec x dx = \ln \sec x + \tan x + C$
2.	Following limits can be used without proof.
	$\lim_{n \to \infty} \frac{\ln n}{n^c} = 0 \text{if} c > 0; \lim_{n \to \infty} \frac{n^c}{e^n} = 0, \text{for } c > 0; \lim_{n \to \infty} \frac{b^n}{n!} = 0, \text{for any real number } b;$
	$\lim_{n \to \infty} \sqrt[n]{n} = \lim_{n \to \infty} n^{1/n} = 1; \lim_{n \to \infty} \left(1 + \frac{b}{n} \right)^n = e^b \text{for any real number } b.$
3.	You must know the following trigonometric identities.

 $\tan^2 \theta = \sec^2 \theta - 1, \quad \cot^2 \theta = \csc^2 \theta - 1,$

CLASS (MSRC) Review Session: Thursday, November 10, 5pm - 7pm at SERC 110A