MATH 1042 REVIEW PROBLEMS FOR TEST 2 Fall 2018

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

7.3: 4, 6, 7, 12, 13

7.4: 1, 2, 3, 5, 23, 28, 65

7.8: 13, 17, 19, 21, 22, 23, 24, 29, 49, 50, 52

Chapter 7 Review: True-False Quiz: 1, 2, 3, 4, 12, 13, 14; **Exercises:** 9, 10, 12, 41, 43, 45, 71

11.1: 23, 27, 36, 47, 49, 51

11.2: 3, 4, 6, 14, 15, 23, 24, 25, 26, 29, 33, 46, 47, 57, 59

11.3: 17, 21

11.4: 3, 7, 9, 11, 13, 15, 19, 23, 28

11.5: 5, 7, 12, 13, 17

Chapter 11 Review: Concept Check: 1, 3, 4, 5a-e; **Exercises:** 1, 2, 7, 8, 27, 29

Please note that on the test you may use **without proof** the following:

(1) $\displaystyle\int \frac{1}{a^2+x^2}\,dx = \frac{1}{a}\arctan\left(\frac{x}{a}\right) + C$

(2) the improper integral $\displaystyle\int_1^\infty \frac{1}{x^p}\,dx$ converges if $p > 1$ and diverges if $p \le 1$.

(3) for any numbers b and p, $\displaystyle\lim_{n\to\infty} \frac{n^p}{e^n} = 0, \quad \lim_{n\to\infty} \frac{b^n}{n!} = 0; \quad \lim_{n\to\infty} \left(1+\frac{b}{n}\right)^{pn} = e^{bp}$