MATH 1042 **REVIEW PROBLEMS FOR FINAL** **Fall 2019**

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

5.3: 7, 14, 18, 39, 61

5.5: 17, 30, 31, 39, 43, 45, 69

Review Chapter 5: 8, 37, 38, 47, 48

6.1: 1, 2, 15, 24

6.2: 2, 3, 7

7.1: 5, 11, 23, 27, 57, 58

7.2: 1, 4, 7, 26, 57, 58, 61

7.4: 9, 19, 23, 64

11.2: 22, 23, 29, 33, 39

11.4: 7, 9, 10, 13, 15, 17

11.5: 7, 14, 17, 18

11.6: 4, 5, 7, 9, 10, 14, 19, 25, 26, 30, 32, 36, 37

11.7: 5, 6, 14, 18

11.8: 7, 11, 18, 19, 20, 29, 30, (You don't need to test the convergence of the series at the end points.)

11.9: 3, 4, 8, 13a, 16, 17, 25, 27

11.10: 7, 9, 35, 37, 38, 40, 54, 56

11.11: 3, 4, 7 (no graphing in problems 3, 4 and 7)

Review Chapter 11: True-False Quiz: 1, 4, 5, 6, 12; **Exercise:** 11, 13, 14, 15, 17, 18, 47, 50, 51, 55

1. Please note that you need to remember the Maclaurin series for the functions $\dfrac{1}{1-x}$ and e^x.
2. Following limits can be used without proof.

$$\lim_{n\to\infty} \frac{\ln n}{n^c} = 0 \quad \text{if} \quad c > 0; \qquad \lim_{n\to\infty} \frac{n^c}{e^n} = 0, \quad \text{for } c > 0; \qquad \lim_{n\to\infty} \frac{b^n}{n!} = 0 \text{ , for any real number } b;$$

$$\lim_{n\to\infty} \sqrt[n]{n} = \lim_{n\to\infty} n^{1/n} = 1; \qquad \lim_{n\to\infty} \left(1 + \frac{b}{n}\right)^n = e^b \quad \text{for any real number } b.$$

3. You must know the following trigonometric identities.

$$\sin^2 x = 1 - \cos^2 x, \quad \sec^2 x = 1 + \tan^2 x, \quad \csc^2 x = 1 + \cot^2 x,$$

SSC (Students Success Center) Review Workshop:

on Wednesday, December 11, 11am-1pm at Tuttleman 302

Review Session run by Professor Sivek:

on Tuesday, December 10, 1pm - 3pm in SERC 110B