

## MATH 1042 RECOMMENDED HOMEWORK PROBLEMS Fall 2019

1. **Text:** James Stewart, *Calculus, Early Transcendentals*, 8th Edition, Cengage Learning.
2. Math 1042 ADDITIONAL Homework Problems

You are expected to solve **ALL** of the problems listed here and **write out** your solutions. The problems whose numbers are not boxed you will also need to do on WebAssign (where they may be slightly modified).

### Chapter 5: Integrals

5.2: 37, **39**, **40**, 47, **48**, **49**, **51**, **52**, **53**

5.3: 3, **4**, 7, **8**, **10**, 11, **12**, 13, **14**, **16**, **17**, **18**, 19, **20**, **21**, 23, **24**, 25, **26**, 27, **28**, 29, **31**, **32**, **34**, **35**, 37, 39, **40**, **42**, **45**, **47**, 53, 55, 59, 61, **62**, 63, **64**, **65**, 73, **74**

5.4: **10**, 11, **14**, **15**, **18**, **29**, 31, **32**, **36**, 37, **38**, **39**, 43, 49, 50, 51, 59, **60**, 61, **62**, 64

5.5: 1, **2**, **6**, **8**, **11**, **12**, **15**, **16**, **18**, **20**, **27**, **30**, **31**, **32**, 39, **42**, **43**, 44, 45, **46**, 47, 48, **58**, **66**, 67, 68, **79**, 81, 82

### Chapter 6: Applications of Integration

6.1: 1, 2, 3, 4, 9, 11, 13, **14**, **16**, 17, **18**, **20**, **22**, 24, **29**

6.2: 1, **2**, 3, **4**, 5, **6**, 7, **8**, 9, **10**, 11, **12**, 13, 14, 15, **17**, **19–30** (in Problems 19–30 only set up the integrals, do not evaluate them), 54, 55, **56**, 57, 58, **59**; Also do **A6: 1**

### Chapter 7: Techniques of Integration

7.1: 1, **2**, 3, 5, 7, 9, 10, 11, **12**, **13**, **23**, 24, 26, **27**, **31**, **33**, **37**, 41, 57, **58**, **65a**

7.2: 1, 3, **4**, 7, **9**, 11, **12**, **15**, 16, **17**, 21, **22**, 23, 25, 27, **28**, 29, **30**, 33, 34, 35, **38**, **56**, 57, **58**, 61, 62, 63, 65; Also do **A7: 1, 2**

7.3: **1**, 2, 3, 4, **5**, **6**, 7, **8**, 9, **10**, **11**, 12, 13, **14**, 17, **20**, 21, 37

7.4: **1**, 2, **3**, 4, **7**, 8, 9, **10**, 12, **15**, **16**, 17, 19, **21**, **22**, 23, **28**, 64, 65

7.5: 1, 3, 5, **6**, 7, 8, **9**, 13, 16, **18**, 19, 20, 22, **25**, 37, **38**, 54, 57, **59**, 60, **73**

7.8: 1, **2**, 3, 5, 6, 7, 9, **11**, 13, 14, 15, **17**, 18, **19**, 21, **22**, 23, **24**, **27**, 29, **31**, 32, **39**, 40, 41, **42**, 43, **44**, **45** (in Problems 44, 45, make a rough sketch, do not use a graphing calculator), **49**, **50**, **52**,

## Chapter 11: Infinite Sequences and Series

11.1: 1,  $\boxed{2}$ ,  $\boxed{3}$ ,  $\boxed{4}$ , 5,  $\boxed{7}$ , 23,  $\boxed{25}$ ,  $\boxed{26}$ ,  $\boxed{27}$ ,  $\boxed{28}$ , 29,  $\boxed{30}$ ,  $\boxed{31}$ ,  $\boxed{32}$ ,  $\boxed{33}$ ,  $\boxed{34}$ , 35,  $\boxed{36}$ , 37, 38,  $\boxed{39}$ ,  $\boxed{40}$ , 41, 42, 44, 45, 47,  $\boxed{48}$ ,  $\boxed{49}$ , 50,  $\boxed{51}$ , 53,  $\boxed{54}$ ,  $\boxed{55}$ , 56,  $\boxed{72}$ , 73,  $\boxed{74}$ , 75,  $\boxed{77}$ . Also do  $\boxed{\text{A11: 1}}$

11.2: 1, 3,  $\boxed{4}$ , 15,  $\boxed{16}$ , 17,  $\boxed{18}$ , 19,  $\boxed{20}$ ,  $\boxed{21}$ , 22, 23,  $\boxed{24}$ ,  $\boxed{25}$ ,  $\boxed{26}$ , 27,  $\boxed{29}$ ,  $\boxed{30}$ , 31,  $\boxed{32}$ ,  $\boxed{33}$ ,  $\boxed{34}$ ,  $\boxed{35}$ ,  $\boxed{36}$ ,  $\boxed{37}$ ,  $\boxed{38}$ ,  $\boxed{39}$ ,  $\boxed{40}$ , 43,  $\boxed{44}$ ,  $\boxed{46}$ , 47, 57,  $\boxed{58}$ , 59,  $\boxed{60}$ ,  $\boxed{61}$ ,  $\boxed{62}$ ,  $\boxed{63}$ , 67. Also do  $\boxed{\text{A11: 2, 3, 4}}$

11.3: 7, 8,  $\boxed{9}$ ,  $\boxed{10}$ ,  $\boxed{15}$ ,  $\boxed{17}$ ,  $\boxed{21}$ , 27,  $\boxed{29}$

11.4: 1, 2,  $\boxed{3}$ ,  $\boxed{5}$ ,  $\boxed{7}$ ,  $\boxed{8}$ ,  $\boxed{9}$ ,  $\boxed{10}$ ,  $\boxed{11}$ ,  $\boxed{13}$ ,  $\boxed{15}$ ,  $\boxed{17}$ ,  $\boxed{19}$ ,  $\boxed{21}$ ,  $\boxed{23}$ ,  $\boxed{24}$ ,  $\boxed{25}$ ,  $\boxed{27}$ ,  $\boxed{28}$ , 31,  $\boxed{32}$ ; Also do  $\boxed{\text{A11: 5abcd}}$

11.5: 2,  $\boxed{3}$ ,  $\boxed{4}$ ,  $\boxed{5}$ , 7,  $\boxed{9}$ ,  $\boxed{10}$ ,  $\boxed{11}$ ,  $\boxed{12}$ ,  $\boxed{13}$ ,  $\boxed{14}$ ,  $\boxed{17}$ ,  $\boxed{18}$ ,  $\boxed{19}$ ,  $\boxed{20}$

11.6: 1,  $\boxed{2}$ ,  $\boxed{4}$ ,  $\boxed{5}$ ,  $\boxed{6}$ , 7,  $\boxed{9}$ , 10,  $\boxed{11}$ ,  $\boxed{12}$ , 13, 14,  $\boxed{15}$ ,  $\boxed{16}$  (Problems 7, 9, 12, 13, 15, 16, solve in two ways: (1) using the Root Test and (2) using the Ratio Test), 17, 18,  $\boxed{19}$ , 25,  $\boxed{26}$ ,  $\boxed{27}$ ,  $\boxed{28}$ , 29,  $\boxed{30}$ ,  $\boxed{31}$ ,  $\boxed{32}$ ,  $\boxed{33}$ ,  $\boxed{34}$ ,  $\boxed{35}$ , 37. Also do  $\boxed{\text{A11: 5ef}}$

11.7:  $\boxed{1}$ ,  $\boxed{3}$ ,  $\boxed{4}$ ,  $\boxed{5}$ ,  $\boxed{6}$ ,  $\boxed{7}$ ,  $\boxed{9}$ ,  $\boxed{11}$ ,  $\boxed{13}$ ,  $\boxed{14}$ ,  $\boxed{15}$ ,  $\boxed{16}$ ,  $\boxed{18}$ ,  $\boxed{19}$ ,  $\boxed{21}$ ,  $\boxed{22}$ ,  $\boxed{23}$ ,  $\boxed{24}$ ,  $\boxed{25}$ ,  $\boxed{26}$ ,  $\boxed{28}$ ,  $\boxed{31}$ ,  $\boxed{33}$

11.8: 3,  $\boxed{4}$ ,  $\boxed{5}$ , 6, 7,  $\boxed{8}$ , 9,  $\boxed{11}$ ,  $\boxed{13}$ , 14,  $\boxed{15}$ , 17,  $\boxed{18}$ , 19, 29, 30

11.9: 3,  $\boxed{4}$ , 5,  $\boxed{6}$ ,  $\boxed{7}$ , 8, 13,  $\boxed{14}$ ,  $\boxed{15}$ , 16, 17, 25,  $\boxed{26}$ , 27, 28

11.10: 3, 4,  $\boxed{5}$ ,  $\boxed{6}$ ,  $\boxed{7}$ ,  $\boxed{8}$ ,  $\boxed{9}$ ,  $\boxed{19}$ ,  $\boxed{21}$ ,  $\boxed{22}$ ,  $\boxed{23}$ ,  $\boxed{24}$ ,  $\boxed{25}$ ,  $\boxed{26}$  (in Problems 21–26, only find the **first four nonzero terms of the Taylor Series**), 35, 37,  $\boxed{38}$ , 39, 40,  $\boxed{54}$ , 55, 56, 73, 74,  $\boxed{75}$ , 76

11.11:  $\boxed{3}$ , 5, 6,  $\boxed{7}$ ,  $\boxed{8}$ , 9 (in Problems 3–9, do not graph  $f$  and  $T_3$ )