Math 13700 **Assignment Sheet** **Spring 2017**

Text: Reconceptualizing Mathematics, 2nd Edition by Sowder, Sowder, & Nickerson. W.H. Freeman, 2014.
Follow instructions written here in addition to instructions in the text. Ma 13700 web page: www.math.purdue.edu/MA13700.

Lesson	Section	Page	Problems
1	1.1/1.2	p. 9	Write out all relevant quantities and values as well as the solution. 2b (You can purchase a fraction of a meter of wire mesh.), 3, 5, 8 *See assignment 1 examples on the website for help.*
2	1.3	p. 16	1 (Name a metric and an English unit.), 2, 3 (Find info for average yearly rainfall in Lafayette and your homework or other favorite city.), 5 (Your answers should be different from the text answers.)
3	1.4	p. 19	5, 6, 7, 8, 9; Also, make up your own problem that is similar to these and show your diagram and solution.
4	2.1/2.2	p. 23	4d: MCLVII, e: MDL, f: CCXXV, 5d: three hundred sixty-five, e: one thousand two hundred eight, f: five hundred twenty-three, 6d: XCIV, e: MMXLII, F: CMIX, p. 25 → 1: bfjkl, 5, 8
5	2.3	p. 32	2c, 3k: 25_{ten} in base four, 1: $b^2 + 3b$ in base b, m: 42 in base 4, n: 143_{ten} in base five, 4 (use base 5), 5c, 6def, 7, 8, 9def, 15de, 16fgh, 17e, 18ef *See Lesson 5 Recap on the website for help.*
6	2.4	p. 38	1 → Use these numbers instead of the ones given in the text: 210_{three} and 122_{three}, 2e: $103_{four} + 231_{four}$, f: $341_{five} – 234_{five}$, 4cd, 5e: $523_{six} – 144_{six}$, f: $817_{nine} – 208_{nine}$, 7c, 8d, 9 (Use base seven only.); Draw pictures of pieces for all but problems 4 and 5. Read pp. 39-40, section 2.5. Rename 6400 in four distinct ways.
7	3.1	p. 44	1, 2, 3 start with : C | D 7, 8
8	3.2	p. 50	2a (Draw a diagram to represent this problem. Answer the question written in the text.), 2b, 3, (Write out the incorrect work a students might do for each example and also the correct work needed.), 4b, 5bc, 6, 7, 11abde
9	3.3	p. 55	2 (For Cases A, B, C you do 26 + 57. For Case E you do 86 – 9 using both methods. For Case G: you do 700 – 359.), 5 (Do two different number lines for each problem. Start with a different first jump each time.)
10	3.4	p. 62	2, 4, 6bcf, 8, 12ab (NO, they are not the same.), 14
11	3.5	p. 68	2, 3, 4, 5acd, 7 (Write two different types of division problems. Solve.), 8 (Indicate which division concept is used, make a diagram, and solve.)
Exam I: Tuesday February 7, 2017 @ 8:00pm in GRIS 103.			

12	3.6/3.7	p.73/ 75	p. 73: #2, 3, 4 (Use $2973 \div 14$), 5 (Use $56 \div 8$) p. 75: #2, 4cd, 6ef, 7b
13	4.1	p. 81	1bc, 1e: $612 \div 3$, 2c: $322_{four} + 13_{four}$, d: $200_{five} - 43_{five}$, 5 if $1800 \div 12 =$ 150, then i: $1800 \div 6$=__, j: $1800 \div 24$=___, k: $900 \div 12$= ___, l: $3600 \div 12$ = ___. Read pp. 84-85. Use 2 sentences to answer p. 85 #5.
14	5.1	p. 89	1ac, 2bcef, 3bcef, 4bd, 5, 6 – Make a photocopy of the bottom of p. 89.
15	5.2	p. 93	4, 5 (Choose one method that you could use to mentally estimate 27×43.), 6acde, 7bcd, 8bcdefg
16	5.3	p. 96	1, 2(Assume a constant speed of 50 mph.), 3, 4(Determine the cost per person to pay for AIDS research – round to the nearest penny.), 5 (NO minimum number of words – any number will do.)
17	5.4	p. 98	1 (Express your answers in scientific notation.) d: $\left(12.32 \times 10^5\right) \times \left(4 \times 10^3\right)$, e: $\left(12.32 \times 10^5\right) \div \left(4 \times 10^3\right)$, f: $\left(12.32 \times 10^3\right) \times \left(4 \times 10^5\right)$, 3 (Write the problem and answer in sci. notation.), e: $3{,}900{,}000 \times 260{,}000{,}000{,}000$ f: $1{,}200{,}000{,}000 \div 24{,}000{,}000$ g: $0.000000042 \div 600{,}000$ h: $0.0000063 \div 0.00005$; 4, 11: Change 13 ft/sec into yds/hr. Use sci. notation for your answer. 12: Describe (in words) the steps needed to change 564.1×10^{-4} to sci. notation. Explain how you know what steps to use. Read pp 99-100, section 5.5.
18	6.1	p. 104	2abc (Use rectangular regions.), 4, 8, 9abde, 10b (Use a circle and a rectangle.), 12, 13, 14, 15b, 18, 22cd
19	6.2	p. 112	1ab, 2*c, 3*ab (*Use rectangles.), 5bc, 6abe (Tell how you know.), 7bc, 8a, 9, 10, 11cde, 12a, 13 (Click on interactives and search for "Equivalent Fractions." Explain what happens across the middle as you fill in squares or circles.)
20	6.3	p. 118	1d (Show how you know.), 2bf, 4bd, 6, 8 (Make a neat list,), 9, 10, 12
21	6.4	p. 122	1, 2, 6, 8bcd (Don't use common denominators. Use your number sense.), 9, 10hijklmnop, 12cdefghi, 14, 15, 16, 18; Read pp. 122-123, section 6.5. SUMMARIZE the four critical ideas.
Exam 2: Wednesday, March 8, 2017 @ 8:00pm in GRIS 103			
22	7.1	p. 129	2, 4bcd, 8, 10, 13, 15bdg, 16c
23	7.2	p. 134	1, 4, 5efgh, 9, 10, 11ad (Use pattern block pieces.), 16, 17, 18a
24	7.3	p. 141	2, 5, 8df (Use pattern block pieces.), 9, 11, 14ef, 16 (Use fractions in part c.), 18

25	8.1/8.2	p. 150	1, 3; p. 154: 1, 3, 6, 7ae, 9a; Read pp. 156-158, section 8.3. What is NCTM? Name two publications.
26	9.1/9.2	p. 160 & 166	p. 160: 1, 5 (Make LARGE (all sides > 6cm) drawings of scalene obtuse triangles. Measure each side in cm. Use a protractor to measure each angle.) p. 166: #2, 5, 7 (Answer questions A and B as well as the question in the text.), 18, 21 (Ignore a-d. Answer question with unit ratio and with proportion.)
27	9.3	p. 173	1, 4, 5, 6, 8, 9, 12, 13, 17, 21 fghij; Read pp. 178-179, section 9.4. *Print off worksheet for L28 and bring with you to class.*
28	10.1/10.3	p. 183	1b, 3cd, 5, 6; p. 188: 1b, 2, 3def, 4cd, 5
29	10.4	p. 194	1efgh, 2cdefgh, 3(circles), 4defgh (no drawing), 6, 7(3 problems), 9bc, 10b
30	10.5	p. 199	2abcdefghijk, 3cd, 4, 5, 6b (Write a word sentence to answer the question.), 9bcdefgh *Print off and bring worksheet for Lesson 31 to class.*
31	10.6	p. 205	1, 2, 3, 4a (Follow instructions for part c.), 6 (Use 7 numbers: create an add table and a mult table and also list all 11 prop with examples.), 10defg, 11defgh
Exam 3: Wednesday, April 12, 2017 @ 8:00pm in GRIS 103.			
32	11.1	p. 212	2bc, 3b, 8, 10, 11cfij, 12, 14, 16bc, 17, 18, 19, 20, 21 (Show arithmetic for each number until you find the next perfect number.)
33	11.2	p. 218	1, 3f, 4bc, 7bdf, 8de, 9, 10dg, 11cd, 12cd, 13, 14bcd *Print off and bring "Casting Out Nines" for Lesson 34.*
34	11.3	p. 225	1bd, 2bc, 4, 6de, 10, 11, 13ce, 14ce, 16, 20, 21c: 84×47, 24b
35	11.4 & 11.5	p. 232 & 236	p. 232: 4, 7bc, 8cd, 11, 13, 17, 19, 23cd, 27fghi, 28df p. 236: 1, 2, 3

Course webpage: www.math.purdue.edu/ma13700