Math 13700   Assignment Sheet   Spring 2016

Text: <u>Reconceptualizing Mathematics,</u> 2nd Edition by Sowder, Sowder, & Nickerson. W.H. Freeman, 2014
Follow instructions written here in addition to instructions in the text. Math 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 <u>can</u> purchase a fraction of a meter of wire mesh), 3, 5, 8
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 home town or other favorite city), 5(different from text ans)
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 1bfjkl, 5, 8
5	2.3	p 32	2c, 3k: 25_{ten} in base four, l: $b^2 + 3b$ in base b, m: 4^2 in base four,
			n: 143_{ten} in base five, 4 (use base five), 5c, 6def, 7, 8, 9def, 15de,
			16fgh, 17e, 18ef
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

No Class will be held on Friday, January 29, 2016 ☺

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 student 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 $26 + 57$, Case E: you do $86 - 9$ using both methods,
			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

Exam 1   Monday, February 8, 2016 at 8:00 pm in BRNG 2280
No class will be held on Wednesday, February 10, 2016

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)
12	3.6/ 3.7	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: $322_{\text{four}} + 13_{\text{four}}$, d: $200_{\text{five}} - 43_{\text{five}}$,

                             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 p85 #5.

14   5.1   p 89   1ac, 2bcef, 3bcef, 4bd, 5, 6 – make a photocopy of the bottom of p89

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 50mph), 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: $\left(12.32 \times 10^{3}\right) \div \left(4 \times 10^{5}\right)$, 3 (write the problem and the 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 (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

Exam 2 Monday, March 7, 2016 at 8:00 pm in MJIS 1001

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 pp122-123, section 6.5. Summarize the four critical ideas.

No class will be held on Friday, March 11, 2016

22   7.1   p 129   2, 4bcd, 8, 10, 13, 15bdg, 16c

23   7.2   p 134   1, 4, 5efgh, 9, 10, 11ad (use p.b. pieces), 16, 17, 18a

24   7.3   p 141   2, 5, 8df(use p.b.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   1, 5 (Make <u>LARGE</u> (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, 21fghij   Read pp 178-179, section 9.4.

          Print off worksheet for L28 and bring with to class.

28	10.1/10.3	p 183	1b, 3cd, 5, 6 p188 1b, 2, 3def, 4cd, 5
29	10.4	p 194	1efgh, 2cdefgh, 3(circles), 4defgh(no drawing), 6, 7(2 problems), 9bc, 10b
30	10.5	p 199	2abcdefghijk, 3cd, 4, 5, 6b (write a word sentence to ans quest), 9bcdefgh

Exam 3 Monday, April 11, 2016 at 8:00 pm in WTHR 172
No class will be held on Wednesday, April 13, 2016

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 ex), 10defg, 11defgh
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
34	11.3	p 225	1bd, 2bc, 4, 6de, 10, 11, 13ce, 14ce, 16, 20, 21c: 84×47, 24b
35	11.4	p 232	4, 7bc, 8cd, 11, 13, 17, 19, 23cd, 27fghi, 28df
	11.5	p 236	1, 2, 3

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