Math 13900   Assignment Sheet   Spring 2012

Text: <u>Reconceptualizing Mathematics Part III</u> Custom First Edition by Sowder, Sowder, and Nickerson, W.H. Freeman, 2010

Materials needed for the course: graph paper, isometric dot paper, ¼ ´´ dot paper, unlined paper, cm ruler, protractor, and scissors. Bring these with you <u>every day</u> to class. Be responsible and do not rely on someone else to do this for you. Also needed: stapler, tape, and compass.

Follow instructions written here in addition to instructions in the text. Math 13900 web page: www.math.purdue.edu/MA13900

Lesson	Section	Page	Problems
1	16.1	p373	1, 2, 3, 4, 5ab(draw front, right, top, and left for each), 6(use the dot paper in the text and then make a photocopy) Also do p375 Activity 3 – follow the instructions and <u>bring the kit with you for L2</u> along with the worksheet for L2.
2	16.2	p377	1, 2b, 3, 4, 5bc, 6ab, 7a, 9, 10, 13, 14
3	16.3	p383	3, 4abc, 5cd, 7, 10ac, 13(use <u>graph</u> paper to draw all possible pentominoes; determine the perimeter of each; answer all questions), 14, 16a, 19bc

No class on Monday, January 16th or Wednesday, January 18th

Lesson	Section	Page	Problems
4	16.4	p389	1, 3, 4, 6, 9(do not use rectangle or square; draw the second figure upside down)

L5: Bring your kit of shapes.

Lesson	Section	Page	Problems
5	16.5	p392	1bdfhjl, 4ac, 6, 7b(count F,V,E for first figure), 9ab, 10(draw a total of 4)
6	17.1	p402	1bdgi, 2bdfhjlnp, 3a, 4cd, 5, 6cd, 7def, 9 (make a table for 3, 4, 5, 6, 7, 8, 10, 12, 20, and n-sided polygons)
7	17.1/2	p405	12abcdek, 13, 14abcden, 15, 16c(make a table similar to ex9), 18bdfh
		p409	1(redraw Venn diagram correctly), 2bdfhjln, 3bd(shared characteristics), 4bdf
8	17.3	p415	2(copy and complete chart), 3bde, 4b(draw <u>large</u> scalene triangle on unlined paper; measure all angles and sides(cm) after following instructions, 6bc, 8a(find 4 more examples that work and show arithmetic to verify)
9	18.1	p426	1, 4bdf, 5bde, 6, 7bd, 8bde, 11, 12

L10: Bring kit.

Lesson	Section	Page	Problems
10	18.2	p431	2bd, 3bd, 4(number the 6 VERTICES of your shape and list the vertices that the plane or axis will go through), 5c, 6(two separate drawings for ea), 7, 8, 9

Exam 1   Monday, February 6, 2012 at 8:00 pm in LILY G126

Lesson	Section	Page	Problems
11	19.1	p441	2c*(show two distinct tessellations), 3a(start with a 3cm square, use both methods (p440) on the same square, and make 8 copies of your figure to show that it tessellates), 4*, 6a, 7*(use the "w" pentomino) *NOTE: use graph paper

L12: Bring kit.

Lesson	Section	Page	Problems
12	19.2/20.1	p445	2, 3abc; p454 5*, 6*(*use a vertex for center point), 22
13	20.1	p454	1b, 2, 3, 8ab, 9bd, 10a(show example), 15bd, 17def, 19bdfh
14	20.2	p462	1, 3bd, 4ad(also ratio of areas), 5abcd, 6, 7

L15: Print off and bring worksheet for L15.

Lesson	Section	Page	Problems
15	20.3	p467	4*, 5*(*list dimensions in increasing order), 6, 8, 9, 11, 12, 16, 18ac, 22, 23

L16: Bring a compass from now on.

16   21.1   p478   1, 2(use 4cm circle), 3a, 4(draw figure for b – show lines of symmetry, pts of
                                        rotational symmetry), 5cdg(use 4cm circles), 6(f is 180°), 8XY
17   21.1   p479   (unlined paper)9(large triangle), 10ac, 11a, 12d, 13bd, 15b, 16cd, 19, 20c, 21bd
   L18 Print off and bring worksheet for L18. Bring cone and cylinder from kit and tape.
18   21.2   p486   1, 2, 3bc, 4ab, 6bd, 7, 8, 9
19   22.1   p492   1, 2, 3, 4, 7(make 7 distinct shapes – put matching sides of triangles together)
20   22.2   p496   (two kinds of dot paper needed) 2bce, 4, 5abce, 6abce, 7, 8, 10
   L21 Print off and bring worksheet for L21.

Exam 2   Monday, March 5, 2012 at 8:00 pm in LILY G126

21   22.3   p502   (unlined paper and dot paper) 2, 3ad, 4, 5, 6
22   22.4   p507   1, 2(use a non-symmetrical figure)bd f(if a>b) h, 4bdf, 5(copy paper), 6b,
                                        7(just name rigid motion), 8, 9a, 13bdf, 16(first part only)
   L23 Print off and bring worksheet for L23.
23   22.5   p513   1, 2b, 3, 4, 5ac, 6, 8, 10, 11b, 12(no right angles)
   L24 Bring tape.
24   22.6   p516   1(google "cross section of a pear" and make 2 drawings/each), 2, 4(label pictures
                                        1, 2, 3 for reference), 5(create a core without rotation symmetry and then
                                        create your pattern by rotating it), 8
         23.1   p523   1bdfhj, 2bdfhj, 4bcfhjln, 5bdf, 6b, 8bcd, 9efgh, 10
25   23.1   p524   12(no exp), 13, 14acd, 15, 16bdfh, 17bd, 18bd, 19, 22bdf, 23, 25
26   23.2   p532   1c, 3, 4, 5, 6bdhi, 7a(name 10)c(name6), 9, 12, 14, 16bdfh, 17, 18ac, 20
27   23.2   p535   22b, 24, 25bdf, 26defg, 27bcd, 31, 34a, 35, 39bdf, 40bdf, 41b, 42a, 43
28   24.1   p553   3, 5bdfh, 6ab, 7b, 9bd, 11bd, 12bdfhj, 13b, 14b, 15a, 16, 17, 21a, 26, 28d
29   24.2   p561   1bdfhjl, 2bd, 3bdf, 4ac, 6, 7bd, 8bc, 9b, 10bd, 12, 14b, 17, 19bdfhjl, 21bd
30   24.3   p567   1,2
         25.1   p575   2bd, 3, 4b, 5, 6, 8b, 9bce, 14, 16ab, 17, 18bdfh

Exam 3   Tuesday, April 10, 2012 at 8:00 pm in LILY G126

   *L31 Print off and bring worksheet for L31. **CLASS WILL MEET IN ENAD 138 on Fri April 13, 2012.***

**31   25.1   p578   18ijkl, 19b, 21acfg, 23ab, 24b, 25bd, 26, 29, 35, 37(let r = 10, 13)
   L32 Bring shape I from kit.
32   25.2   p586   2, 3ac, 4, 5, 7, 8, 10, 12
33   25.2   p588   13, 16, 18bd, 20, 21, 22bd
         26.1   p597   1bc, 2, 3bdf(exact answer only), 4bd, 6bd
34   26.1   p598   7, 8, 9(exact answer only), 10a, 13abcde, 14b, 15bc, 17, 18bd, 20ab, 22, 23
35   26.2   p606   4bc, 9, 10ac, 11, 12, 13ab, 15b, 16ab, 18a, 19c, 20, 23bde, 24b, 25, 27b

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