

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

Materials needed for the course: graph paper, isometric dot paper, 1/4 " dot paper, unlined paper, cm ruler, protractor, and scissors. Bring these with you every day 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
4	16.4	p389	1, 3, 4, 6, 9(draw a LARGE quadrilateral with no equal sides or angles; draw the second figure upside down)

No class will be held on Wednesday, January 16, 2013

L5: Bring your kit of shapes.

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 p409	12abcdek, 13, 14abcden, 15, 16c(make a table similar to ex9), 18bdfh 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.

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
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Exam 1 Tuesday, February 5, 2013 at 8:00 pm in WTHR 104

No class on Wednesday, February 6, 2013

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
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L12: Bring kit.

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.

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

Exam 2 Tuesday, March 5, 2013 at 8:00 pm in EE 170

No class on Wednesday, March 6, 2013

L21 Print off and bring worksheet for L21.

- 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(name 6), 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 1bdfjl, 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 Monday, April 8, 2013 at 8:00 pm in WTHR 104

No class on Wednesday, April 10, 2013

***We will meet on Friday, April 10, 2013 in HAMP(Civil Engineering) 3144 at our regular time.**Print off and bring worksheet for L31.*

- **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