

## Week 27 Pre-Algebra Assignment:

Day 1: pp. 510-511 #1-25

Day 2: pp. 517-518 #2-18 even, 19-29 odd

Day 3: pp. 540-541 #1-34

Day 4: pp. Chapter 12 test

Day 5: pp. 546-547 #3-27 multiples of 3, pp. 551-552 #1-4, 13-23 odd

### Notes on Assignment:

Pages 510-511 (#1-25)

#### Work to show:

All problems: You can use a calculator.

#1-4: True/false

#5-25: Write formula, fill in formula, solve.

#15-22: Show any formulas used.

#23-25: Write formula, fill in formula, solve.

#1-4: Refer to definitions on page 510.

#5-10: Use either  $C = \pi d$  or  $C = 2\pi r$  for these problems. Write the formula, fill in the information given, and use algebra to solve for the remaining variable. Use 3.14 for  $\pi$  and round as directed.

#13: If the figure is regular, it means all of the sides are the same length. Instead of adding  $9.5+9.5+9.5+9.5+9.5+9.5$ , just take 9.5 times 6.

#15: There is extra information given in this drawing. Use only what you need for the perimeter.

#19: The 2 rounded ends are semicircles. If you think of them together, you get a single circle with radius 7. Don't forget to add on the 2 sides that are each 30.

#20: The 2 curved parts are semicircles with radius 15. This is similar to problem #19.

#23: Use  $x$  for each of the sides of the square.

#24: Regular means all of the sides are the same length, which means  $6x=49.8$ .

#25: This is not a 5-step word problem, but let  $w$  = the width and determine the length based on  $w$ . Then put the length and width into the rectangle formula, including letting  $p = 94$ .

Pages 517-518 (#2-18 even, 19-29 odd)

**Work to show:**

#2-18: Answers only

#19-29: Set up the proportion and show the solving.

General notes for this section: Consider the following definitions:

- Congruent shapes – same size and shape
- Similar shapes – same shape but not necessarily the same size

For similar shapes, set up a proportion of corresponding sides. Set up all ratios with the same proportion. Either use  $\frac{\text{side of smaller triangle}}{\text{corresponding side of larger triangle}}$  for all of the ratios, or use  $\frac{\text{side of larger triangle}}{\text{corresponding side of smaller triangle}}$ . It doesn't matter which you use, but it has to be the same for all of the ratios in your problem.

#2-6: Use the notation to tell which parts correspond to each other.

#8-10: Remember that in similar triangles the corresponding angles are congruent but the corresponding sides make a ratio.

#8: Find the side in the 2<sup>nd</sup> triangle that corresponds to MF in the first triangle.

#18-19: Make sure the letters are arranged so that the corresponding parts are listed correctly.

Note for problems 21-29: Any time you have a ratio of 2 numbers, you are welcome to simplify it. So, for example, if your ratio is  $\frac{15}{10}$  you can simplify it to  $\frac{3}{2}$  if you want. The solutions will *not* do this, but you can if you want. The final answer will be the same either way.

#21: You have one complete ratio, namely  $\frac{15}{10}$ . Note that this ratio puts the side from the larger triangle on top. Set that equal to the ratio that includes x, again putting the side from the larger triangle on top. This will look like:  $\frac{15}{10} = \frac{x}{16}$ . Solve this by taking cross products. Then do the same to find y.

#27: Use the markings in the angles to determine which angles and sides are corresponding. Sometimes it's hard to tell with the drawings. In this problem, the side called x corresponds to the side that is 24 in the larger triangle.

#29: You may want to redraw this two triangles because one is sitting right on top of the other. The larger triangle has sides 16, 20, and y and the smaller triangle has sides 12, 9, and x. Since the two triangles share an angle, use that shared angle to determine which sides are corresponding.

## Pages 540-541 (#1-34)

### **Work to show:**

- #1-4: Answers only
- #5-6: Drawing and answer
- #7-31: Answers only
- #32-34: Show proportion and solve.

Chapter Review – no notes

## Chapter 12 test

### On the test:

- Know how to write segments, rays, points, and planes using letters and symbols
- Know the definitions of the types of angles ( acute, obtuse, right, supplementary, complementary).
- Draw angles of a given measure using a protractor.
- Know the types of angles you get when you take a transversal and draw it through 2 lines (corresponding, vertical, alternate interior, alternate exterior).
- If two parallel lines are cut by a transversal, find the angle measures.
- Classify angles according to their angles and according to their side lengths.
- Know what the sum of the angles of triangle is.
- Be able to find angle measures and side measures of congruent and similar triangles.
- Find the circumference and perimeter of circles and basic shapes.

## Pages 546-547 (#3-27 multiples of 3)

### **Work to show:**

- All Problems: You may use a calculator.
- #3-21: Write the formula, fill it in, and solve for the missing quantity.
- #24-27: Show work

General notes for this section: Use the formulas for area given on page 545.

#6: This drawing has extra information. You just need the base and the height. Make sure you use the base that goes with the given height.

#12: This drawing has extra information. You just need the base and the height. Make sure you use the base that goes with the given height.

#18-21: When you fill in the height and the area in your formula, you will need to solve for the base.

#24: Draw this shape on your paper. Divide the shape into 3 rectangles. (There is more than one way to do this.)

#27: Draw this shape on your paper. Divide the shape into 3 rectangles. (There is more than one way to do this.) Remember to then subtract the area of the small square that has been cut out of the blue rectangle.

Pages 551-552 (#1-4, 13-23 odd)

**Work to show:**

#1-4: Write the formula, fill it in, and solve for the missing quantity.

#13-23: Show work.

General notes for this section: Refer to the formulas on page 549-550.

#13: Find the area of the square and subtract the area of the triangle.

#15: Find the area of the blue trapezoid and subtract the white trapezoid.

#17: Find the area of the rectangle and then subtract the area of the triangle.

#19-21: When you fill in the area and the other given length in your formula, you will need to solve for the missing quantity using algebra.

#23: Remember that after you get the numbers filled in to your formula that you do what is in parentheses first.