

Geometry Week 12 Assignment:

Day 1: pp. 230-231 #1-20

Day 2: pp. 236-237 #1-24

Day 3: pp. 242-244 #1-14, 20-25 [24-29]*

Day 4: p. 231 #21-23, pp. 243-244 #15-18

Day 5: Chapter 6 quizzes #3, 4, & 5 (Do as worksheets and omit #6 on quiz 5)

* Cumulative Review problem #'s adjusted for 3rd edition books

Notes on Assignment:

Pages 230-231

Work to show:

#1-15: Answers only

#16-20: Proofs

- #10: These 2 angles are supplementary. How do you find one supplementary angle if you know the other one?
- #16: Use the same picture that was used for #1-10 on page 230. Mark $\angle 1 \cong \angle 8$. In order to show that the lines are parallel, you will need to use the Parallel Postulate. That means you will need to somehow show that $\angle 3 \cong \angle 6$. Think about how you can do that.
- #17: If one pair of alternate interior angles are congruent, what do you know about the lines? The rest will follow from this.
- #18: If two corresponding angles are congruent, what do you know about the lines? The rest will follow from this.
- #19: Use the same thinking as you did for #17 and 18.
- #20: You know that $\angle 4$ and $\angle 3$ are supplementary (why?). Use the definition of supplementary and then substitution.
- #21, 23: Both use transitive. Look at the different relationships and see where transitive can be used.

Pages 236-237

Work to show:

#1-20: Show any calculations needed.

#21-24: Proofs

#5-8: Subdivide the figures into triangles if you need to.

#9-12: Find the sum of the angles, then divide by how many angles you have.

#13-20: You will have to use what you know about the sum of the angles of a triangle, supplementary angles, linear pairs, and vertical angles in order to figure these out.

#21: Draw a right triangle and label it ABC. Let C be the right angle. The sum of the angles of any triangle is 180° . You know that $m\angle C = 90^\circ$ (how?). Using this, show that the other 2 angles add to 90° . By definition, then, they would be complementary.

#22: You will use Theorem 6.17 for this.

#23: This will be done similarly to #21. Start with the sum = 180° . Then use what you know about equiangular triangles and do some substituting.

#24: You might want to work backwards. In order to be perpendicular, what must be true? Can you show that this is true?

Pages 242-244

Work to show:

#1-8: Answers only

#9-14: Proofs

CR: Show calculation for the distance and simplify.

#1-8: Write ASA, SSS, SAS, or neither.

Note on proofs: For most of these proofs, you are proving triangle congruence. You will need to do this using ASA, SSS, or SAS. As you show this, you will need to consider all that you know about angles, such as vertical angles, angles formed by a transversal and parallel lines, supplementary angles, linear pairs, etc.

#10: You will have to use the Parallel Postulate to show some angles congruent.

#11: Use what you know about the angles of equiangular triangles to show corresponding angles congruent.

#15: You might want to extend AC and DF so that you can see that BE is a transversal.

#16: Look at the relationship between $\angle ABD$ and $\angle DAE$ and then the relationship between $\angle ABD$ and $\angle CBD$ and between $\angle DAE$ and $\angle FEA$.

#17: You will need to use what you proved in #16 for this. When you state that $\angle CBD \cong \angle FEA$, state as your reason "proved in #16."

#18: You will need to use the Adjacent Angle Portion Theorem for this.

Chapter 6 quizzes

These are a review of what we have done so far in chapter 6. Do these as worksheets, not as quizzes. You are welcome to use your books or notes.