Geometry Week 13 Assignment:

Day 1: pp. 248-249 #2-6, 11-14
Day 2: pp. 254-255 #1-14, 21-25
Day 3: pp. 249-250 #16-19, p. 255 #15-19
Day 4: pp. 258-259 #1-29
Day 5: Chapter 6 test

Notes on Assignment:

***General Note**: **When doing proofs, there is often more than one way to prove something. So, your proof may not match the one in the book and that is ok.**

Pages 248-249:

Work to show:
#2-4: Show any work needed.
#6, 11-14: Proofs

#5: When triangles overlap, oftentimes you will use the reflexive property because there is an angle or segment that is part of both triangles. For this problem, if you prove that ΔEAB and ΔDBA are congruent, then you can use CPCTC to prove the angles congruent.

#6: These triangles share a side. Use reflexive again.

#11: You will need to use the Adjacent Angle Portion Theorem.

#12: It doesn't look like Q is the bisector, but assume it is, because it was given as being true.

#13: You will need to use the Adjacent Angle Portion Theorem.

#14: If you can prove that ΔMPN ≅ ΔNOM, then you can get $\overline{PN} \cong \overline{OM}$. Then prove ∠1≅∠4 using Adjacent Angle Portion Theorem. Lastly, use linear pairs and supplementary angles to show ∠LPN ≅ ∠LOM.

Pages 254-255:

Work to show:
#1-10: Answers only
#11-14: Proofs
#21-25: Answers only

#8: Trace the angle. Then measure the length of AC, put the point of the compass on A, and see where it intersects the ray to form 2 triangles.

#9: How else do we list AAS?

#10: Is there any combination of 2 angles and a side that wouldn't fit into one of our congruence theorems of postulates?

#14: Can you show $\angle 2 \cong \angle 4$.

#21-25: These are all from sections 5.2 through 5.4 if you need to look them up.

Pages 248-249:

Work to show:
#16-19: Proofs

#16-17 Use Theorem 6.21 for these proofs.

#18: First prove $\Delta YXW \cong \Delta VWX$ by ASA. Then you can get $\overline{YX} \cong \overline{VW}$. You already know that $\overline{UX} \cong \overline{UW}$. Use betweenness to show that YU=VU and then change to congruence.

#19: If you can show that the measures of angles 1 and 4 are equal and the measures of angles 2 and 3 are equal, then you can add those 2 equations together and get $m\angle ABC = m\angle ACB$ by using the angle addition postulate and substitution. This leads to an isosceles triangle.

Pages 254-255:

Work to show:
#15-19: Proofs

#15: Prove the triangles are congruent. Then you can use the parallel postulate with AC as the transversal.

#16: Prove the triangles congruent and then use CPCTC.

#17: Work backwards from the definition of bisector.

#18: If the triangles are congruent, then $\angle RSU \cong \angle TSU$. Use linear pairs and supplements to prove the angles are 90°.

#19: You can show $\Delta UVX \cong \Delta ZYW$ by SSS if you can show that $\overline{VX} \cong \overline{WY}$. To do that, change your given congruences to measurements and see what you can do. Then use supplements of congruent angles to show $\angle ZWV \cong \angle UXY$.

Pages 258-259:

Work to show:

#1: Drawing
#9-15: Proofs
#16-22: Show any work needed
#23-29: Proofs

Chapter Review – no notes

Chapter 6 Test

You will need to:

- Identify corresponding angles, alternate exterior angles, alternate interior angles, and vertical angles in a drawing. (The lines will not be parallel.)
- Given parallel lines and transversals, find angle measures.
- Find the measures of the angles in a triangle, with some of the information given.
- Use the congruence theorems and postulates to show how triangles are congruent.
- Identify the angle or segment congruence based on the congruence statement and not a drawing.
- One proof that you have to fill in reasons for.
- One proof that you have to fill in some statements and some reasons.
- Two proofs that you have to fill in all of the statements and reasons.