Geometry Week 10 Assignment:

Day 1: pp. 186-188 #1-23
Day 2: pp. 193-195 #1-20, 26-30
Day 3: Mind Bender worksheet
Day 4: Ch. 5 quizzes #4, 5, & 6 (Do as worksheets)
Day 5: pp. 200-201 #1-14, 23-27 *[24-28]**

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

Notes on Assignment:

Pages 186-188

Work to show:
All problems: Answer as directed.

#1-10: Remember that an argument is valid if the reasoning proceeds logically from the premised to the conclusion. An argument is sound if it is valid and the premises are true.

Premises	Reasoning	Argument
T	Valid	Sound
T	Invalid	Unsound
F	Valid	Unsound
F	Invalid	Unsound

#12: Hint: How did he view scripture?

#16-18: An argument is sound if it is valid and the premises are true. If the reasoning is not valid, it is automatically unsound.

#19-22: We had 3 common fallacies:
1. Hasty generalizations – jumping to conclusions based on insufficient evidence
2. Circular Argument – when you assume what you are trying to prove
3. Accident - misapplying a general principle for a situation for which is was not intended.

Pages 193-195

Work to show:
#All problems: Answer as directed.

#1: You should assume that the 2 angles are vertical angles.

#4: Which type of direct proof is it? These are the 4 types:

- Law of Deduction
- Modus ponens
- Modus tollens
- Transitivity

#5: This is the negation of the conclusion in the original Statement. Using one of the types of direct proof, you can draw a conclusion. What is it?

#6: See #4 for your options.

#8-9: The most common fallacies are assuming the inverse and assuming the converse.

#10-12: You are proving that if $p \rightarrow q$ and $q \rightarrow r$, then $p \rightarrow r$. You can assume p is true, and that $p \rightarrow q$ and $q \rightarrow r$. (That is why they are listed as "Given.")

#10: Which of the types of proofs listed in #4 can you use to say that q is true?

#11: Which of the types of proofs listed in #4 can you use to say that r is true?

#12: Based on the steps preceding this step, you have shown that r is indeed true, so you can write your conclusion. What type of proof from #4 can you use to say this?

#13-18: See #4 for your options. It may be helpful to represent the statements in symbols.

#19-20: It may help you to see what modus tollens looks like in symbols: $[(p \rightarrow q) \wedge \sim q] \rightarrow \sim p$.

#26: It looks like you have subtracted 5 from both sides. What property allows you to do this?

#27: It looks like you are multiplying both sides by -1/2. What property allows you to do this?

#28: It looks like you have put in some parentheses to indicate what is to be multiplied first. What property allows you to do this?

#29: It looks like you multiplied 2 numbers together to get 1. What property does this represent?

#30: It looks like you have multiplied 1 times x and got x. What property does this represent?

Mind Bender Worksheets

No notes.

Week 9

Ch. 5 Quizzes #4, 5, and 6

These are review of what we have done so far in chapter 5. Do these as worksheets, not as quizzes. You are welcome to use your books or notes.

- Note: Omit #6b on quiz 4 as we did not talk about appeal to utility.

Pages 200-201

Work to show:

#1-13: Constructions
#14: Explanation
#CR: Answer as directed

#1-10: We learned how to construct a 90° angle by constructing perpendicular lines. We can construct a 45° angle by bisecting the 90° angle. We learned how to construct a 60° angle by constructing an equilateral triangle. We can construct a 30° angle by bisecting the 60° angle. For these problems, think of ways to add, subtract, or bisect angles to get the angles requested. There is often more than one way to do these constructions, so your answer may not look exactly like the solution given.

#10: You can copy the 15° angle from problem #8 to use on this problem.

Note: For #11-13, you need to either trace the figure onto your notebook paper, or photocopy the page in the book.

#11: If the point is on the line, you will have to mark off points on the line equal distance on each side of your point. Then construct the perpendicular bisector using those 2 points. (Your given point has become the midpoint of the 2 points that you marked off.)

#13: Hint: You will need to construct 2 perpendicular lines for this.