

Geometry Week 9 Assignment:

Day 1: pp. 172-173 #1-17

Day 2: pp. 180-181 #1-22

Day 3: p.173 #18-20, 21-23 [23-25]*, pp. 180-181 #24-25, 26-30 [30-34]*

Day 4: Mind Bender Worksheets

Day 5: Ch. 5 quizzes #1, 2, & 3 (Do as worksheets)

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

Notes on Assignment:

Pages 172-173

Work to show:

#1-14: Two answers for each problem.

#15-17: Make truth tables for these.

#1-10: These are like the ones we did in class. Remember:

- A conjunction uses the word “and” and the symbol \wedge . Both statements must be true for a conjunction to be true.
- A disjunction uses the word “or” and the symbol \vee . Only one of the statements must be true for a disjunction to be true. (Both *can* be true.)

Truth table for conjunctions and disjunctions

p	q	$p \wedge q$	$p \vee q$
T	T	T	T
T	F	F	T
F	T	F	T
F	F	F	F

#11: What word can you substitute for “while?” Is it “and” or “or?”

#13: What word can you substitute for “but?” Is it “and” or “or?”

#14: What word can you substitute for the “;” Is it “and” or “or?”

#15: Make a column for p and one for $\sim p$. Then make a column for $p \wedge \sim p$.

#16: Make a column for m and n. Then make a column for $(m \vee n)$. Finally, make a column for $(m \vee n) \wedge m$.

- #17: Make a columns for a and b. Then make a column for $(a \wedge b)$. Finally, make a column for $(a \wedge b) \vee \sim a$.
- #18-19: Make columns for p and q, and then columns for what is in (). Finally, make a column for your entire expression as you did for #15-17.
- #20: Do the parentheses make a difference?

Pages 180-181

Work to show:

#1-15: Answers only is fine.

#16: Three answers.

#17: Two answers.

- #2: You could say “If it is a square, then.....” but it would be better to say “If a polygon is a square, then.....”
- #4-5: “When” and “because” are often markers for the hypothesis.
- #6-13: Use your truth table for conditional statements on page 177 and the truth table for biconditional statements (if and only if statements) on page178. Judge the truth value of each part of the conditional statements and then look at the truth table to determine the truth value of the entire statement. (Remember that a conditional statement is only false if the hypothesis is true and the conclusion is false. A biconditional statement is only true if both parts are true or both parts are false.)
- #19-22: These go along with theorem 5.1 which says that a conditional statement $p \rightarrow q$ can be changed to $\sim p$ or q . Take the hypthesis (the “if” statement) and negate it. Then connect it to the conclusion statement with the word “or.”
- #24-25: Make truth tables for these. If your truth table columns match for the 2 expressions, then we say that the expressions are equivalent and can be used interchangeably. Also, if they are equivalent, then they are biconditional. They can be written with the symbol \leftrightarrow between them or the word “iff” (which stands for “if and only if.”

Mind Bender Worksheets

No notes.

Ch. 5 Quizzes #1, 2, and 3

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.