

Team Problems for Chapter 2

Name: _____

Date: _____

Problem #1: Perimeter and Area

1. The owner of an art framing store recommends using a flat frame that is 1.5 inch wide to frame a painting that is 15 inches by 18 inches.
 - a. Draw a picture (not necessarily to scale) of the painting and its frame.

 - b. What is the perimeter of the painting?

 - c. What is the perimeter of the outside edge of the frame?

 - d. What is the area of the front part of the frame (without the picture)?

Problem #2: True/False Problems

Fill in the blank next to each of the following statements with “T” for True and “F” for false. If the statement is true, explain why it is true or give an example. If the statement is false, give a counterexample.

Remember! If a statement is only sometimes true, then it is FALSE.

- ____ 1. If a number is divisible by 4, then it is divisible by 2.

- ____ 2. Two nonparallel lines intersect in one point.

- ____ 3. The city of Portland is in Oregon.

- ____ 4. Obtuse angles measure 130° .

- ____ 5. An angle that measures 92° is obtuse.

- ____ 6. If a month begins with the letter M, then the month has 31 days.

Problem #3: Laws of Deductive Reasoning

If it is possible, use the Laws of Deductive Reasoning to draw conclusions from the following statements, and state which law you are using. If it is not possible to draw a conclusion, tell why.

1. If you live in the Bronx, then you live in New York.
Tracy lives in the Bronx.

2. If you are a high school student, then you like art.
Ling likes art.

3. If you improve your vocabulary, then you will improve your score on a standardized test.
If you read often, then you will improve your vocabulary.

4. If a whole number ends in 6, then it is divisible by 2.
If a whole number ends in 4, then it is divisible by 2.

Problem #4: Writing Conditional Statements

Write the converse, inverse, and contrapositive of the conditional statements:

- a. "If two segments are congruent, then they have the same length."

Converse:

Inverse:

Contrapositive:

- b. "If I win, then you don't lose."

Converse:

Inverse:

Contrapositive:

Problem #5: More Writing Conditional Statements

1. Write the following well-known quotations as conditional statements (in “if-then” form).
 - a. Mark Twain wrote, “If you tell the truth, you don’t have to remember anything.”

 - b. Helen Keller wrote, “One can never consent to creep when one feels the impulse to soar.”

 - c. Mahatma Gandhi wrote, “Freedom is not worth having if it does not include the freedom to make mistakes.”

 - d. Benjamin Franklin wrote, “Early to bed and early to rise makes a man healthy, wealthy, and wise.”