

Geometry

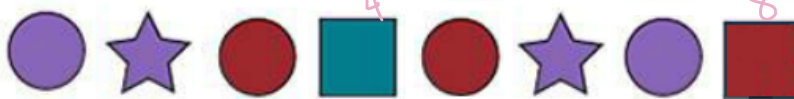
Chapter 2

Section 2-2

May 13-10:02 PM

Warm-up

Use the sequence and inductive reasoning to make a conjecture.



1. What is the color of the fifteenth figure?

2. What is the shape of the twelfth figure?

3. What is the color of the 134th figure?

4. What is the shape of the thirtieth figure?

1) Red
3) Green

2) Square
4) Star

Sep 6-10:48 AM

Concepts

Conditional	An if-then statement, for example: If p then q (written $p \rightarrow q$)
Hypothesis	The part of the statement following if (p)
Conclusion	The part of the statement following then (q)
<u>Truth Value</u>	Identifies a statement true or false
Equivalent Statements	Statements that have the same truth value

Aug 18-2:23 PM

The company that prints the bumper sticker at the left below accidentally reworded the original statement and printed the sticker three different ways. Suppose the original bumper sticker is true. Are the other bumper stickers true or false? Explain.

A If you are too close,
THEN YOU CAN READ THIS.

B If you cannot read this,
then you are not too close.

C If you are not too close,
THEN YOU CANNOT READ THIS.

If you can read this,
THEN YOU ARE TOO CLOSE.

Sep 9-7:32 PM

Identification in Conditionals

Adjacent angles share a ray in common.
If two angles are adjacent then they share a ray in common.

H: (If) Adjacent angles **C:** (Then) Share a ray in common

Sep 9-7:32 PM

Identification in Conditionals

If you build it, he will come.

H: you build it **C:** he will come

Sep 9-7:32 PM

Truth Values

If an animal is a chihuahua then it is a dog.	TRUE
If a person lives in LA, then he or she is American.	FALSE **COUNTEREXAMPLE
If you are The Pope, then you are a Catholic.	TRUE

Sep 7-2:05 PM

Opposites and Truth Values

If an animal is a dog then it is a chihuahua.	TRUE? False
If you are Catholic, then you are The Pope.	TRUE? False

Sep 7-2:05 PM

Statement	Instructions	Written	Read
<i>Negation</i>	The opposite of a statement	$\sim p$	<u>Not p</u>
<u><i>Conditional</i></u>	Use the given hypothesis and conclusion	<u>$p \rightarrow q$</u>	If p, then q
<i>Converse</i>	Exchange the hypothesis and conclusion	<u>$q \rightarrow p$</u>	If q, then p
<i>Inverse</i>	Negate the hypothesis and conclusion	$\sim p \rightarrow \sim q$	If not p, then not q
<i>Contrapositive</i>	Negate and exchange the hypothesis and conclusion	$\sim q \rightarrow \sim p$	If not q, then not p

Sep 9-7:49 PM

p: Two rays are opposite q: Two rays are on a straight line

Statement	Symbols	Example	Truth
<i>Negation</i>	$\sim p$	Two rays are not opposite	-----
<i>Conditional</i>	$p \rightarrow q$	If two rays are opposite, then they are on a straight line.	T
<i>Converse</i>	$q \rightarrow p$	If two rays are on a straight line, then they are opposite.	F
<i>Inverse</i>	$\sim p \rightarrow \sim q$	If two rays are not opposite, then they are not on a straight line	F
<i>Contrapositive</i>	$\sim q \rightarrow \sim p$	If two rays are not on a straight line, then they are not opposite.	T

Sep 9-7:50 PM

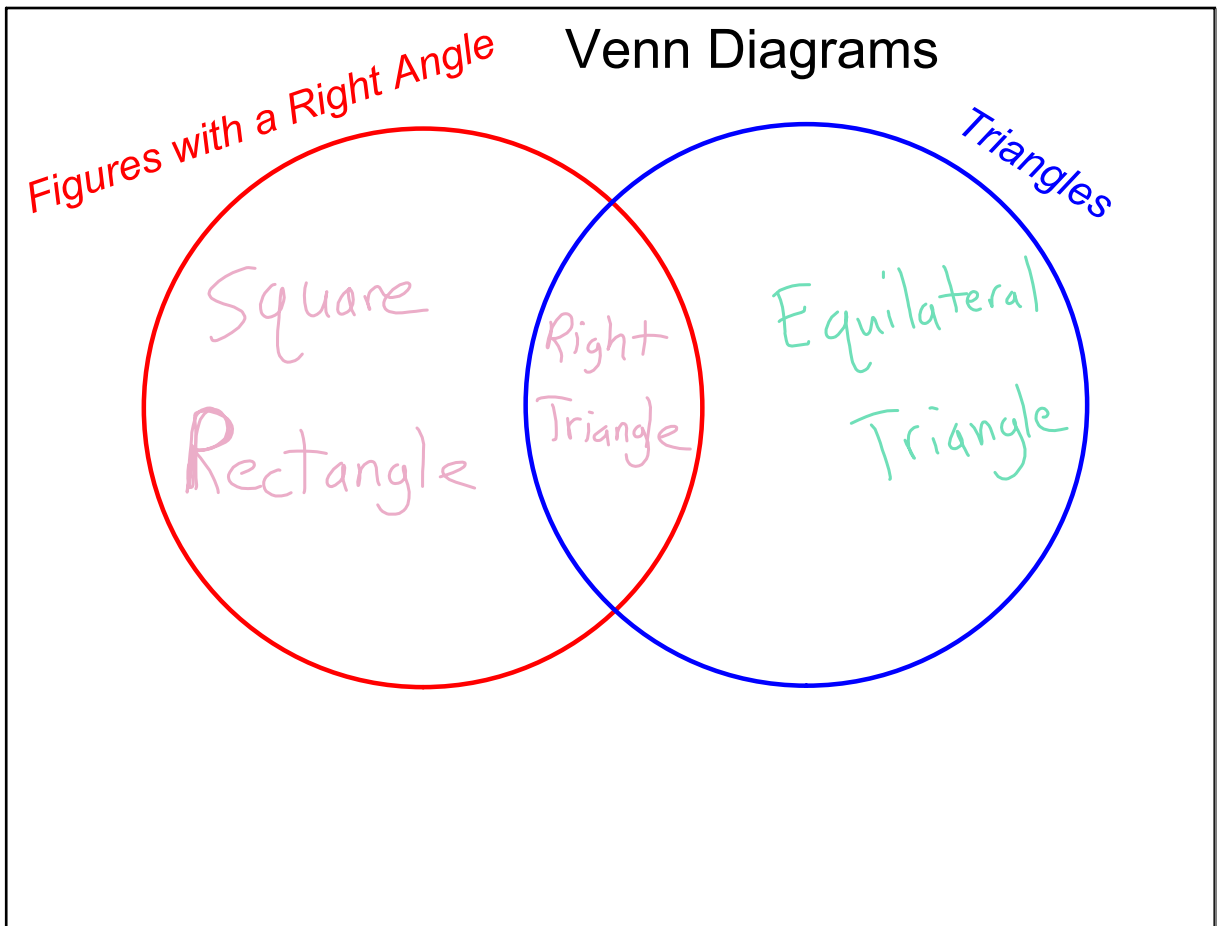
**If you can read this,
THEN YOU ARE TOO CLOSE.** *Conditional*

A **If you are too close,
THEN YOU CAN READ THIS.** *Converse F*

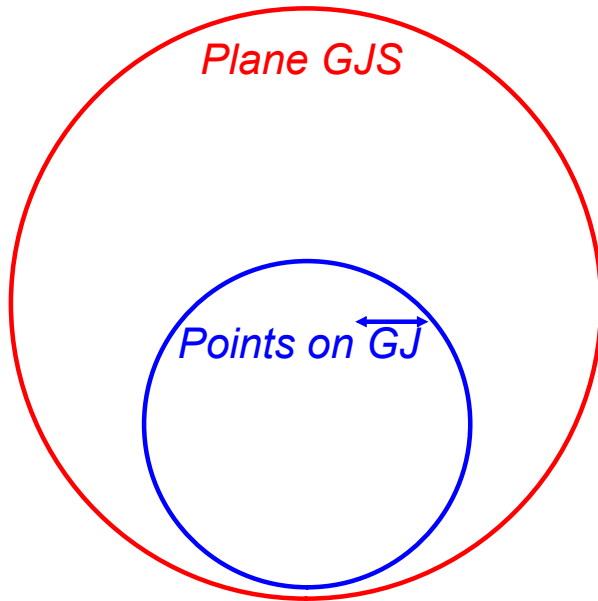
B **If you cannot read this,
then you are not too close.** *Inverse F*

C **If you are not too close,
THEN YOU CANNOT READ THIS.** *Contrapositive*

Sep 9-7:32 PM



Venn Diagrams and Conditionals



If: a point is on
line \overleftrightarrow{GJ}

Then:

a point is in
Plane GJS

Sep 9-7:53 PM

Homework

Pages 93 - 94

#5, 6, 7, 12 - 42 even

May 13-10:02 PM