

Chapter 2 Group Review

1

2

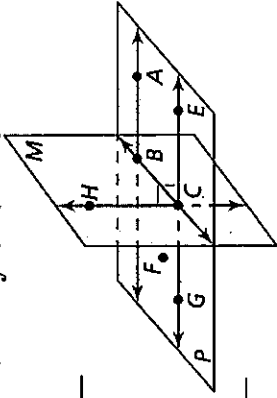
For #1-6, use the diagram to determine whether you can assume the statement. Answer “yes” or “no”

1. $\overleftrightarrow{AB} \perp$ plane M _____

4. planes M and P intersect at $\overleftrightarrow{BC}$ _____
2. points F, G, and A are coplanar _____

5. $\overleftrightarrow{FA}$ lies in plane P _____
3. points E, C, and G are collinear _____

6. $\overleftrightarrow{FG}$ intersects $\overleftrightarrow{AB}$ at point B _____



1

7

Solve the equation. Justify each step. ****you may not need to use all spaces provided in the table****

$-9x - 21 = -20x - 87$	Given equation

1

8

For #8-10, name the property that the statement illustrates.

1

4

8. IF $LM = RS$ and $RS = 25$, then $LM = 25$

9. $AM = AM$

10. If $\angle DEF \cong \angle JKL$, then $\angle JKL \cong \angle DEF$

For #11, write the converse, inverse, and contrapositive of the given conditional statement:

- 1

11
- Conditional:

If it is raining outside, then the ground is wet.
- Converse:

Inverse:

Contrapositive:

- 1

12
- Find a counterexample to prove the statement false:

“The product of two positive numbers is always greater than either number.”

- 1

13
- Which two statements are always logically equivalent?

_____ and _____

_____ and _____

For #14 and #15, determine whether inductive or deductive reasoning was used.

- 1

14
- This weekend, the sun was shining and it did not rain. So, the next time the sun is shining you know that it will not rain.

- 1

15
- The product of to even integers is always even. Because 92 and 14 are even numbers, the product is even.

For #16, use the Law of Detachment to determine what you can conclude from the given information, if possible.

16. If an angle is a right angle, then the angle measures 90° . $\angle B$ is a right angle.

$\frac{1}{4}$

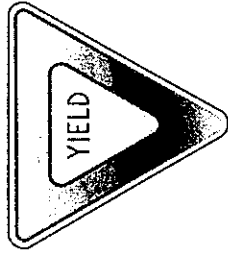
For #17, use the Law of Syllogism to draw a conclusion to write a new conditional statement that follows from the pair of true statements, if possible.

17. If $x = 3$, then $2x = 6$. If $4x = 12$, then $x = 3$.

$\frac{1}{4}$

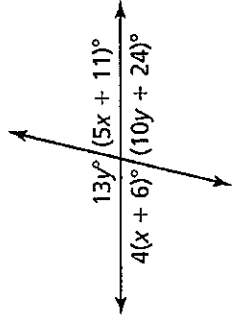
18. The formula for the area A of a triangle is $A = \frac{1}{2}bh$, where b is the base and h is the height. Solve the formula for h (that is, solve the equation for $h = ??$ instead of $A = ??$) and justify each step. Then use this equation to find the height of a standard yield sign when the area is 558 square inches and each side is 36 inches.

$\frac{1}{4}$



19. Find the values of x and y .

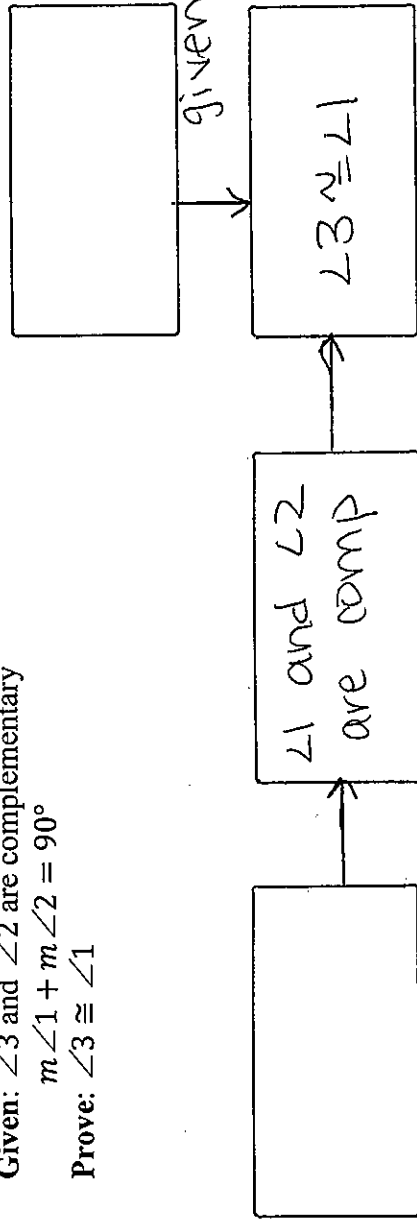
$\frac{1}{4}$



20. Fill in the flow chart proof.

$\frac{1}{2}$

Given: $\angle 3$ and $\angle 2$ are complementary
 $m\angle 1 + m\angle 2 = 90^\circ$
 Prove: $\angle 3 \cong \angle 1$



21. Fill in the flow chart proof.

$\frac{1}{2}$

Given: $\angle 2 \cong \angle 3$
 $\overline{TV}$ bisects $\angle UTW$
 Prove: $\angle 1 \cong \angle 3$

