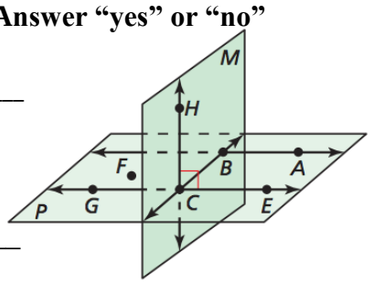
Name _____ Period _____ Score: _____ / 3

Chapter 2 Group Review

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



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

2. points F, G, and A are coplanar _____

3. points E, C, and G are collinear _____

4. planes M and P intersect at $\overleftrightarrow{BC}$ _____

5. $\overleftrightarrow{FA}$ lies in plane P _____

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

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

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

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:

11. Conditional: If it is raining outside, then the ground is wet.

Converse:

Inverse:

Contrapositive:

12. Find a counterexample to prove the statement false:
"The product of two positive numbers is always greater than either number."

13. Which two statements are always logically equivalent?
_____ and _____
_____ and _____

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

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.

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

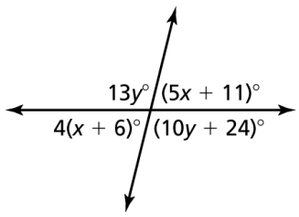
For #16, use the Law of Detachment to determine what you can conclude from the given information, if possible.

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

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.

18. Find the values of x and y.

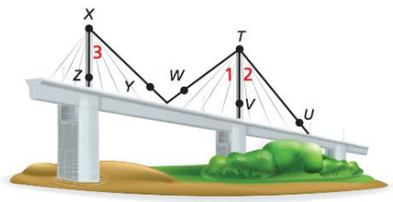


19. Fill in the two-column proof.

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

Statements	Reasons
1. $\angle 3$ comp $\angle 2$ $m\angle 1 + m\angle 2 = 90°$	1. Given
2.	2. comp → add to 90º
3.	3. Trans. Prop. =
4.	4. Subtr. Prop. =
5.	5. = ↔ ≅

20. Fill in the two-column proof.



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

Statements	Reasons
1. $\angle 2 \cong \angle 3$ $\overrightarrow{TV}$ bisects $\angle UTW$	1.
2. $\angle 1 \cong \angle 2$	2.
3. $\angle 1 \cong \angle 3$	3.