Geometry Chapter 2 Review **Name:**_____

Directions: Be sure to SHOW ALL WORK!

Fill in the blank.

1. Vertical angles are _____.
2. _____ angles equal 90°.
3. Angles that are a linear pair are _____.
4. The denial of a statement is a _____.
5. _____ reasoning is using rules of logic to reach a conclusion.
6. If p → q and q → r are true conditionals, then p → r is also true by law of _____.
7. _____ lines intersect to create four right angles.
8. The segments AB + _____ = AC.

State whether each conjecture is true or false based on the given information. If false, then give a counterexample.

9. Given: Points P, Q, and R are collinear.
   Conjecture: Q is between P and R.

10. Given: PQ ⊥ PR
    Conjecture: ∠ RPQ is a right angle.

Write the converse, inverse and contrapositive of each statement.

11. Congruent supplementary angles are right angles.

12. If m $\angle 1 = 42°$ and the m $\angle 1 = 48°$, then $\angle 1$ and $\angle 2$ are complementary.

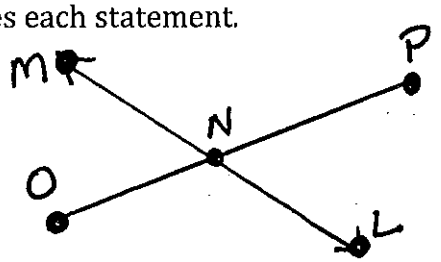
Determine if a valid conclusion can be reached. If it can, state it and the law used. If there is not a valid conclusion then write no conclusion.

13. (1) If angles are supplementary then a there measures add up to 180°.
    (2) $\angle A$ and $\angle B$ are supplementary

14. (1) If two angles are vertical, then they do not form a linear pair.
    (2) If two angles are vertical, then they are congruent.

15. (1) If an angle has a measure less than 90, it is acute.
    (2) If an angle is acute, then its supplement is obtuse.

16. Name the property that justifies each statement.

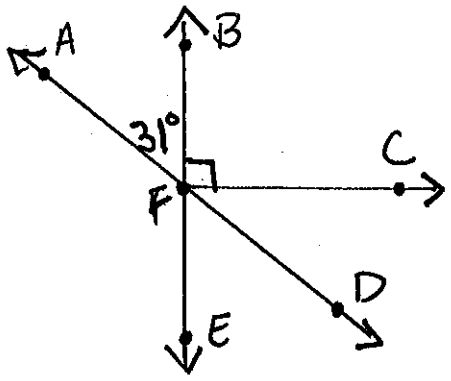


Given: MN = PN
NL = NO
Prove: ML = PO

Proof:

Statements	Reasons
a) MN = PN, NL = NO	a)
b) MN + NL = PN + NO	b)
c) ML = MN + NL PO = PN + NO	c)
d) ML = PO	d)

17. Name the measure of each missing angle.



a) m∠EFD =

b) m∠BFD =

c) m∠AFE =

d) m∠AFC =

Complete each statement with always, sometimes, or never.

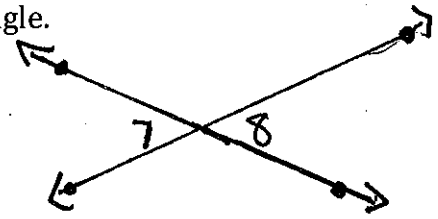
18. If two angles are right angles, they _____ are adjacent.

19. IF two angles are complementary, they are _____ right angles.

20. Vertical angles are _____ adjacent.

Find the measure of each numbered angle.

21. $m\angle 7 = x$ and $m\angle 8 = 6x - 290$



22. $m\angle 1 = 4x$ and $m\angle 2 = 2x - 6$