Geometry/Trig 2

Unit 2 Mixed Practice

Name: _____

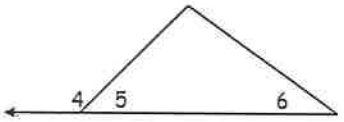
Date: _____

4. Fill in the missing pieces of the proof.

Given: TI = RG Prove: TR = IG

Statements	Reasons
1. _____	1. _____
2. _____	2. Segment Addition Postulate
_____	
3. TR + RI = RI + IG	3. _____
4. _____	4. _____

8. Given: m∠4 + m∠6 = 180 Prove: m∠5 = m∠6



Statements	Reasons
1. _____	1. _____
2. m∠4 + m∠5 = 180	2. _____
3. m∠4 + m∠5 = m∠4 + m∠6	3. _____
4. m∠4 = m∠4	4. _____
5. _____	5. _____

Geometry/Trig 2

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#1-2 Decide whether the given conditional is true or false. If it is false provide a counterexample to support your claim. Identify the hypothesis and conclusion of the conditional. Write the converse of the conditional. Decide whether the converse is true or false. If it is false provide a counterexample to support your claim.

1. If m∠1 = 120, then ∠1 is an obtuse angle.

Conditional, True or False? _____

If false, provide a counterexample. _____

Hypothesis: _____

Conclusion: _____

Converse: _____

Converse, True or False? _____

If false, provide a counterexample. _____

2. If I live in the United States, then I live in Pennsylvania.

Conditional, True or False? _____

If false, provide a counterexample. _____

Hypothesis: _____

Conclusion: _____

Converse: _____

Converse, True or False? _____

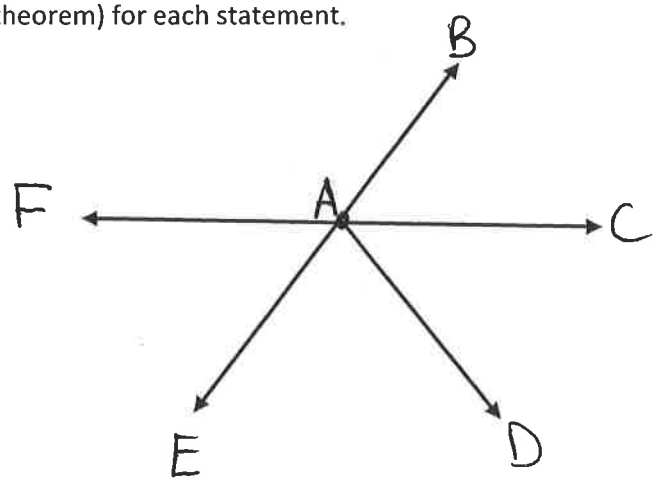
If false, provide a counterexample. _____

3. Fill in the blanks.

Given: MA = TH Prove: MT = AH

Statements	Reasons
1. _____	1. _____
2. MA + AT = TH + AT	2. _____
3. _____ + _____ = MT _____ + _____ = AH	3. _____
4. _____	4. _____

Provide a justification (a definition, property, postulate, or theorem) for each statement.



1. $\overline{EA} + \overline{AB} = \overline{EB}$ _____

_____

2. If $X+7=12$, then $X=5$

_____

3. If A is the midpoint of $\overline{FC}$, then $\overline{FA} \cong \overline{AC}$ _____

4. If A is the midpoint of $\overline{FC}$, then $\overline{FA} = \frac{1}{2}\overline{FC}$

_____

5. If $\overrightarrow{AC}$ is the bisector of $\angle BAD$, then $m\angle BAC = m\angle CAD$

_____

6. $m\angle EAD \cong m\angle EAD$ _____

7. $\angle FAE \cong \angle BAC$ _____

8. $m\angle FAD + m\angle DAC = 180°$ _____

9. If $\angle FAD$ and $\angle DAC$ are supplementary, then $m\angle FAD + m\angle DAC = 180°$

10. If $AD=AC$ and $AC=AB$, then $AD=AB$ _____

Not On Diagram:

11. If $ML \perp RS$, then $\angle LAS$ is a right angle _____

12. If $m\angle DEF = 90°$, then $\angle DEF$ is a right angle _____

13. If $\angle RST$ is a right angle, then $m\angle RST = 90°$ _____

14. If $\angle PQR$ is a right angle, then $PQ \perp QR$ _____

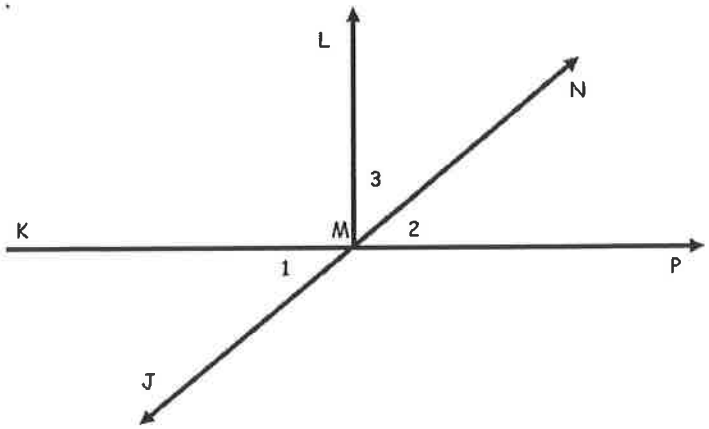
_____

Given: $2(x+5) = 16$

Prove: $x = 3$

Statement	Reason

Can you DEFINITELY conclude the following?
(Yes or No)



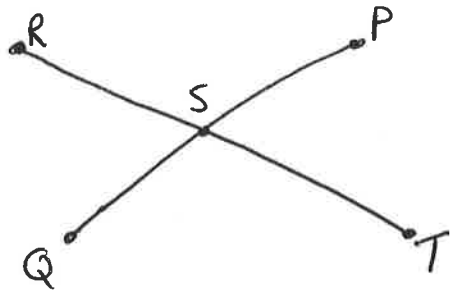
1. $\angle 3 \cong \angle 2$ _____
2. $\angle 1 \cong \angle 2$ _____
3. $\angle 1 \cong \angle 3$ _____
4. $m\angle LMP = 90°$ _____
5. $m\angle KMJ + m\angle JMP = 180°$ _____

Given: $\angle LMP$ is a right angle
$\angle KMP$ is a straight angle

6. J and L are collinear Points _____
7. $\angle LMN$ and $\angle NMP$ are complementary _____
8. $\angle KMJ$ and $\angle JMP$ are supplementary _____
9. $\angle KML$, $\angle LMN$, and $\angle NMP$ are supplementary _____
10. $JM = MN$ _____
11. $\angle KML$ is a right angle _____

Given: $RS = PS$ and $ST = SQ$

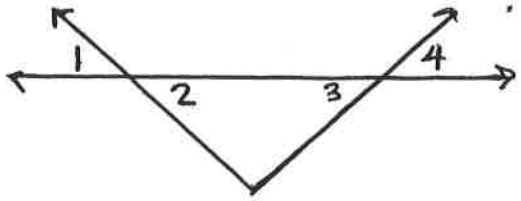
Prove: $RT = PQ$



Statement	Reason
1.	1.
2.	2. Addition Property
3.	3. Given
4. $RS + ST = PS + SQ$	4.
5.	5. Segment Addition Postulate
6.	6.

Given: $\angle 2 \cong \angle 3$

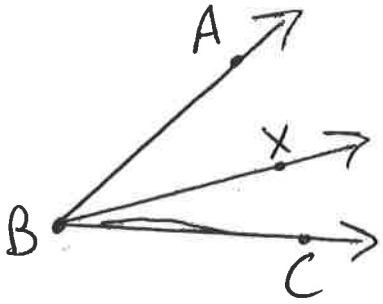
Prove: $\angle 1 \cong \angle 4$



Statement	Reason
1.	1.
2. $\angle 2 \cong \angle 1$	2.
3.	3. Substitution
4. $\angle 3 \cong \angle 4$	4.
5.	5.

Given: $\overrightarrow{BX}$ is the bisector of $\angle ABC$

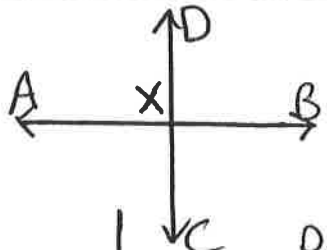
Prove: $m\angle ABX = \frac{1}{2} m\angle ABC$



Statement	Reason
1.	1.
2.	2.
3.	3. Angle Addition Postulate
4 $m\angle ABX + m\angle ABX = m\angle ABC$	4.
5.	5.

Given: $\angle AXD \cong \angle DXB$

Prove: $\overleftrightarrow{AB} \perp \overleftrightarrow{DC}$



Statement	Reason
1. _____ $m\angle AXD = m\angle DXB$	1.
2 $m\angle AXD + m\angle DXB = 180°$	2.
3. _____	3. Substitution
4. $m\angle AXD = 90°$	4.
5.	5.
6.	6.