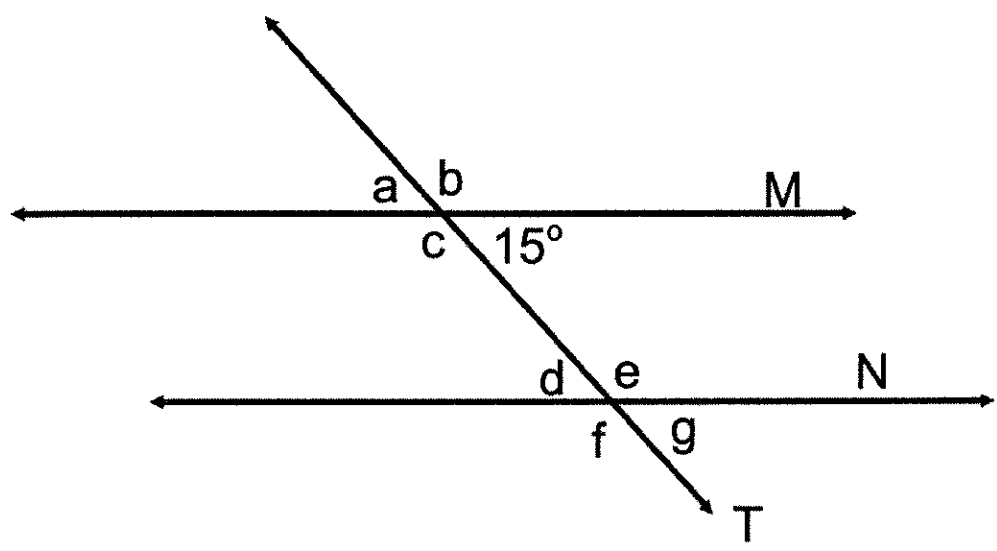


LT 1: Communication	LT 1	LT 2	LT 5
LT 2: Patterns/Modeling			
LT 5: Geometry			

Key



Parallel lines M and N are intersected by line T. Answer the following questions based on the information given.

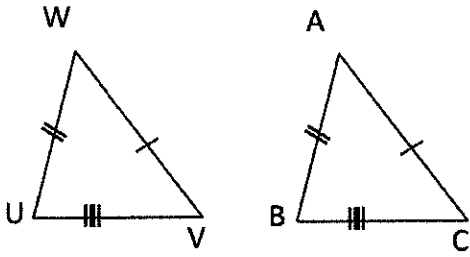
True/False

1. Angles d and g are vertical angles.
2. The value of angle g is 15 degrees
3. Angle c and e are alternate interior angles
4. Angles a and d are alternate exterior angles
5. Line T is called the transformer
6. Angle f and angle e are supplementary angles
7. Angle a and angle e are supplementary angles
8. The value of angle f is 165 degrees
9. Angles b and g are consecutive exterior angles
10. Angles c and g are corresponding angles.

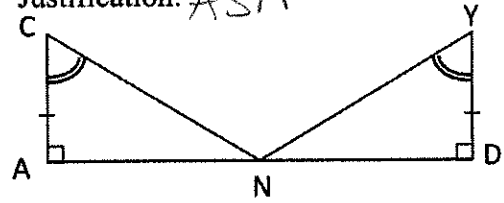
1. True
2. True
3. True
4. False
5. False
6. False
7. True
8. True
9. True
10. False

11. Determine if the following triangles are congruent or not. If yes, state the congruence shortcut.

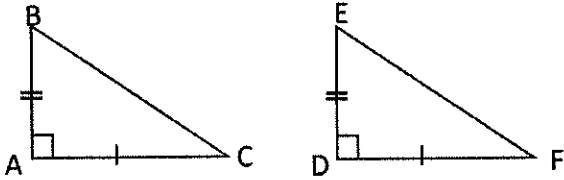
1) $\triangle WUV \cong \triangle ABC$
 Justification: SSS



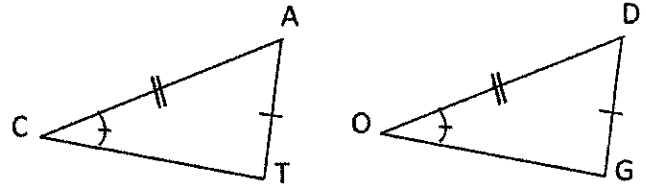
5) $\triangle CAN \cong \triangle YDN$
 Justification: ASA



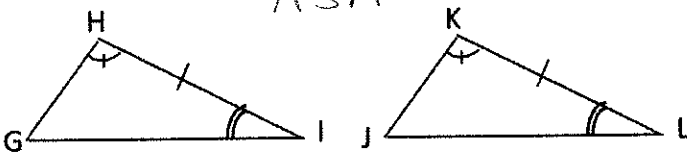
2) $\triangle ABC \cong \triangle DEF$
 Justification: SAS



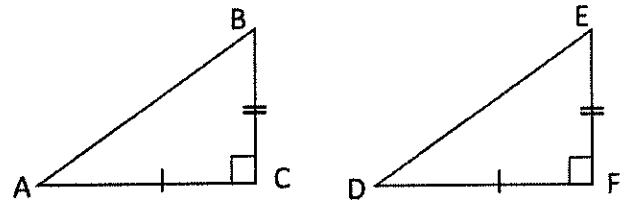
6) $\triangle CAT \not\cong \triangle ODG$
 Justification: SSA



3) $\triangle GHI \cong \triangle JKL$
 Justification: ASA

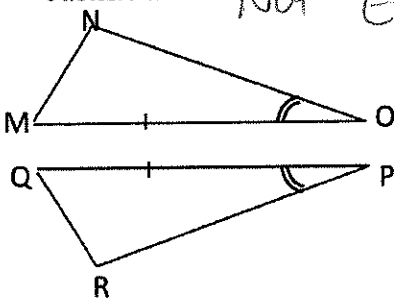


7) $\triangle ABC \cong \triangle DEF$
 Justification: SAS

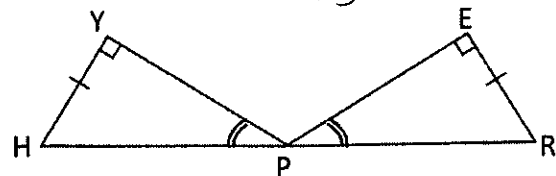


4) $\triangle MNO \not\cong \triangle QRP$

Justification: NOT Enough Info

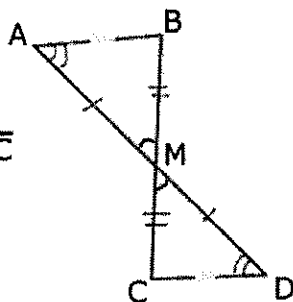


8) $\triangle HYP \cong \triangle REP$
 Justification: AAS



Given: M is the midpoint of \overline{AD} and \overline{BC}

Prove: $\overline{AB} \parallel \overline{CD}$



Statements	Reasons
1. Given: M is the midpoint of \overline{AD} and \overline{BC}	1. Given
2. $\overline{AM} \cong \overline{MD}$ $\overline{BM} \cong \overline{MC}$	2. Definition of Midpoint
3. $\angle AMB \cong \angle DMC$	3. Vertical Angles Theorem
4. $\triangle ABM \cong \triangle DMC$	4. SAS Thm
5. $\angle A \cong \angle D$	5. CPCTC
6. $\overline{AB} \parallel \overline{CD}$	6. Converse of Alt. Interior Angles Thm

12a. What was the given information?

M is the midpoint of \overline{AD} and \overline{BC}

12b. What is the conjecture to be proved?

$\overline{AB} \parallel \overline{CD}$

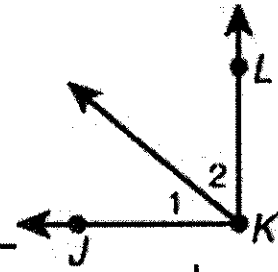
12c. What theorem is used to prove the angles are congruent?

- Vertical Angles Theorem
- CPCTC

13. Fill in the missing steps and reasons in the proof below.

Given: $\angle JKL$ is a right angle.

Prove: $\angle 1$ and $\angle 2$ are complementary angles.



Two-Column Proof:

Statements	Reasons
1. $\angle JKL$ is a right angle.	1. Given
2. $m\angle JKL = 90^\circ$	2. Definition of right angle
3. $m\angle JKL = m\angle 1 + m\angle 2$	3. Angle Addition Postulate
4. $90^\circ = m\angle 1 + m\angle 2$	4. Transitive or Substitution
5. $\angle 1$ and $\angle 2$ are Complementary	5. Definition of complementary angles

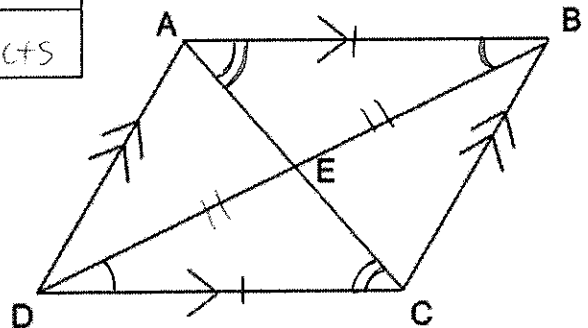
14. Fill in the Reasons for each statement in the following proof

Given $\triangle ABD \cong \triangle CDB$

Prove that \overline{AC} bisects \overline{DB}

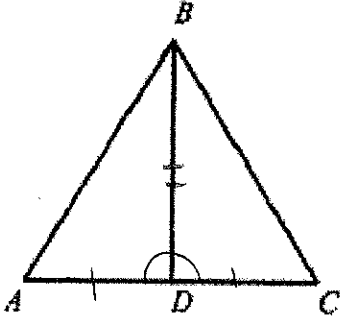
Statement	Reasons
$\triangle ABD \cong \triangle CDB$	Given
$\overline{AB} \cong \overline{DC}$	CPCTC
$\angle ABE \cong \angle CDE$	Alternate Interior angles
$\angle BAE \cong \angle DCE$	Alternate Interior angles
$\triangle ABE \cong \triangle CDE$	ASA
$\overline{DE} \cong \overline{BE}$	CPCTC
\overline{AC} bisects \overline{DB}	Definition of Bisects

or CPCTC



15. Given \overline{BD} bisects \overline{AC} , $\angle ADB \cong \angle CDB$

Prove that $\overline{AB} \cong \overline{CB}$



Statement	Reason
\overline{BD} bisects \overline{AC}	Given
$\angle ADB \cong \angle CDB$	Given
$\overline{AD} \cong \overline{CD}$	Definition of bisects
$\overline{BD} \cong \overline{BD}$	Reflexive
$\triangle ABD \cong \triangle CBD$	SAS
$\overline{AB} \cong \overline{CB}$	CPCTC

