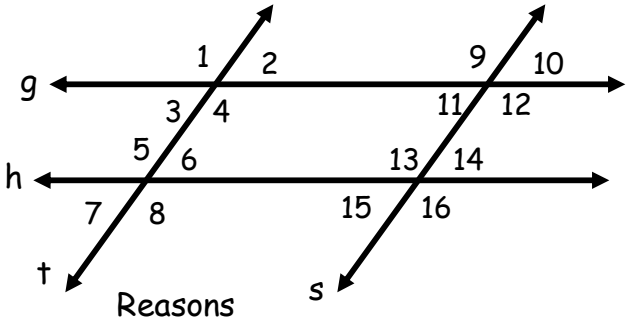
Geometry/Trig
USING Parallel Line Proofs – Page 1

Name: _____
Date: _____

1. Given: g // h and s // t

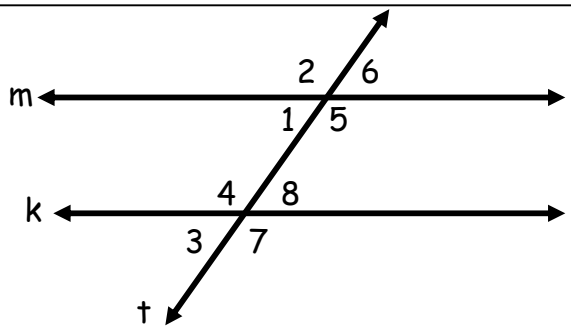
Prove: $\angle 2 \cong \angle 15$



Statements	Reasons

2. Given: k // m

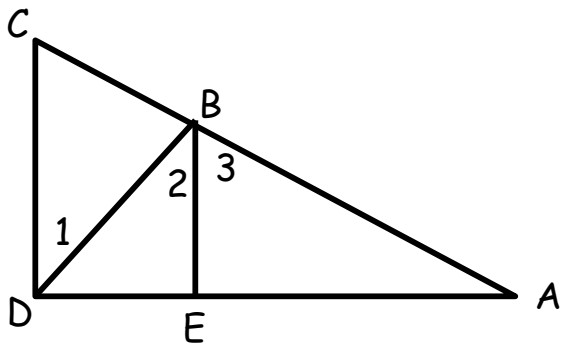
Prove: $\angle 1$ is supplementary to $\angle 7$



Statements	Reasons

3. Given: CD // BE; $\angle 3 \cong \angle 1$

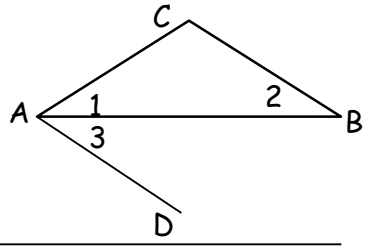
Prove: BE bisects $\angle DBA$



Statements	Reasons

4. Given: AD // BC; $\angle 1 \cong \angle 2$

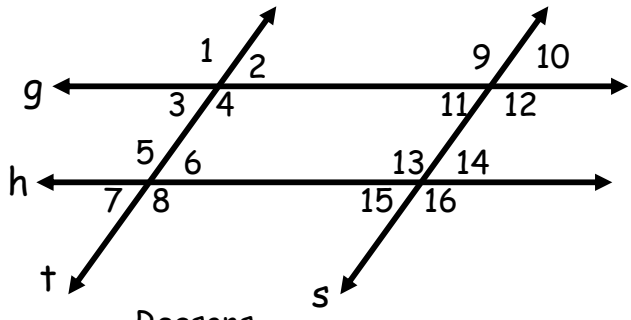
Prove: AB bisects $\angle CAD$



Statements	Reasons

5. Given: $\angle 4 \cong \angle 13$; t // s

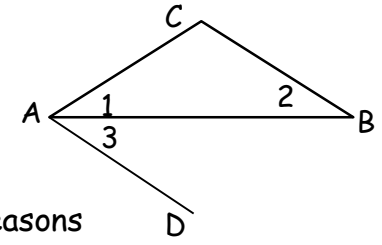
Prove: h // g



Statements	Reasons

6. Given: AB bisects $\angle CAD$; $\angle 1 \cong \angle 2$

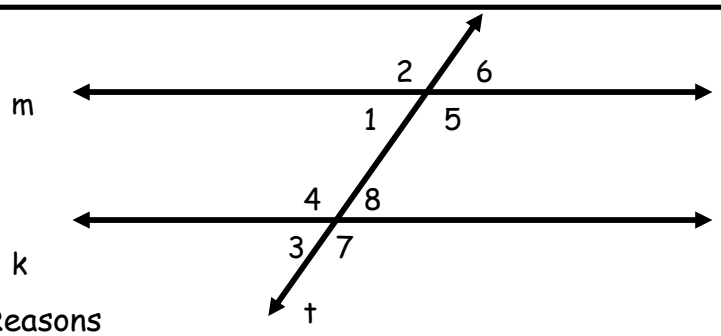
Prove: AD // BC



Statements	Reasons

7. Given: $\angle 1 \cong \angle 8$

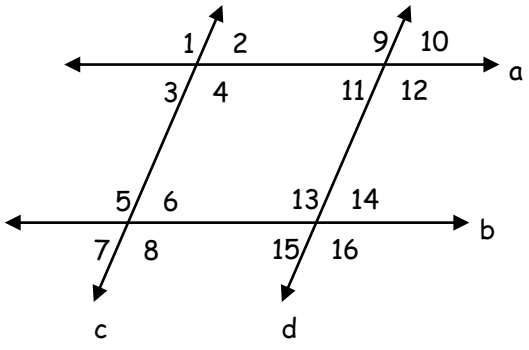
Prove: $\angle 5 \cong \angle 7$



Statements	Reasons

8. Given: c // d; $\angle 1$ and $\angle 14$ are supplementary

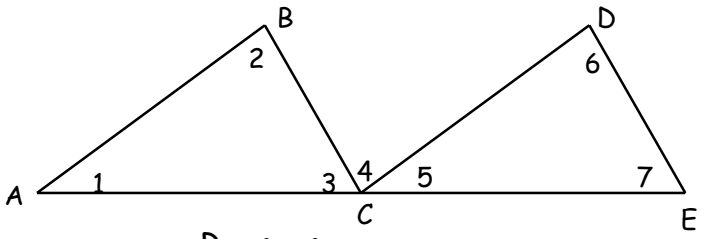
Prove: a // b



Statements	Reasons

9. Given: AB // CD; $\angle 2 \cong \angle 6$

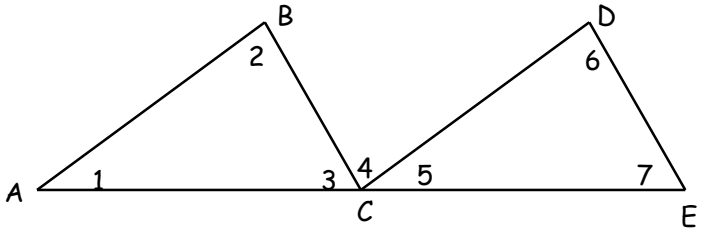
Prove: BC // DE



Statements	Reasons

10. Given: BC // DE; $\angle 2 \cong \angle 6$

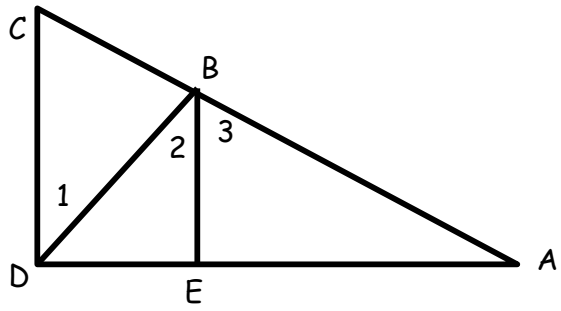
Prove: AB // CD



Statements	Reasons

11. Given: BE bisects $\angle DBA$; $\angle 3 \cong \angle 1$

Prove: CD // BE

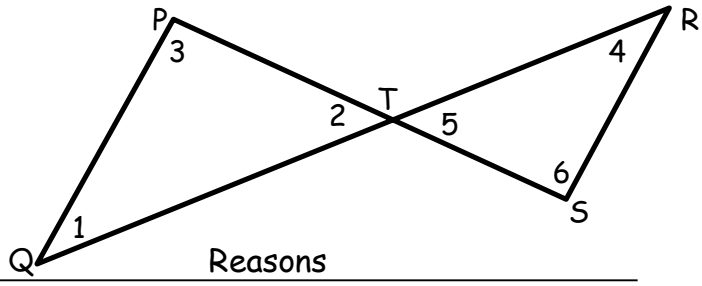


Statements	Reasons

12. Given: $\angle 1 \cong \angle 2$; $\angle 4 \cong \angle 5$

Prove: $\angle 3 \cong \angle 6$

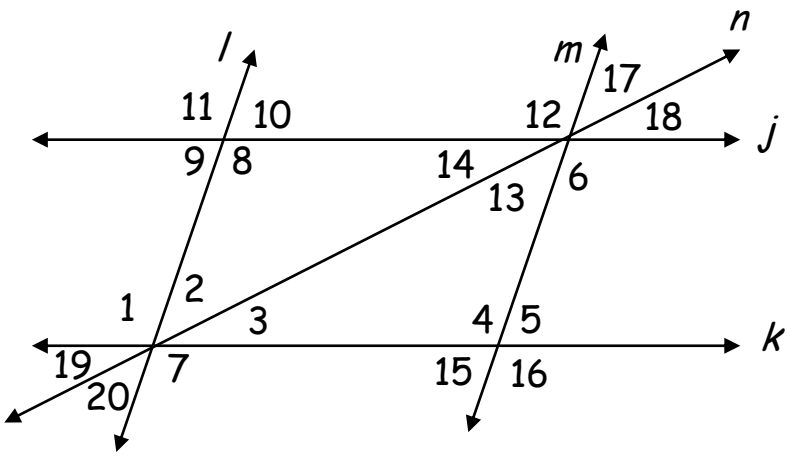
HINT: First prove PQ // RS, then you should just need one more step to get to this prove.



Statements	Reasons

Geometry/Trig Name: _____

Practice: What two lines are parallel (if any) according to the given information?



REASONS:

A. If corresponding angles are congruent, then lines are parallel.

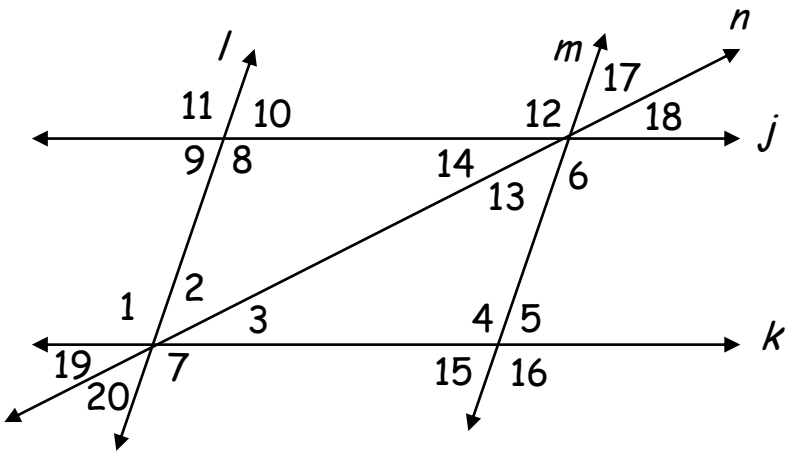
B. If alternate interior angles are congruent, then lines are parallel.

C. If alternate exterior angles are congruent, then lines are parallel.

D. If same side interior angles are supplementary, then lines are parallel.

E. If same side exterior angles are supplementary, then lines are parallel.

GIVEN	Parallel Lines	Reason
Ex. $m\angle 7 = m\angle 8$	*$j \parallel k$*	*A*
1. $m\angle 7 = m\angle 4$	_____	_____
2. $m\angle 5 + m\angle 6 = 180°$	_____	_____
3. $m\angle 8 = m\angle 1$	_____	_____
4. $m\angle 10 + m\angle 7 = 180°$	_____	_____
5. $m\angle 1 = m\angle 7$	_____	_____
6. $m\angle 8 + (m\angle 2 + m\angle 3) = 180°$	_____	_____
7. $m\angle 1 = m\angle 4$	_____	_____
8. $m\angle 1 + m\angle 2 + m\angle 3 = 180°$	_____	_____
9. $m\angle 17 = m\angle 20$	_____	_____
10. $m\angle 3 = m\angle 14$	_____	_____
11. $m\angle 2 = m\angle 13$	_____	_____
12. $m\angle 11 = m\angle 16$	_____	_____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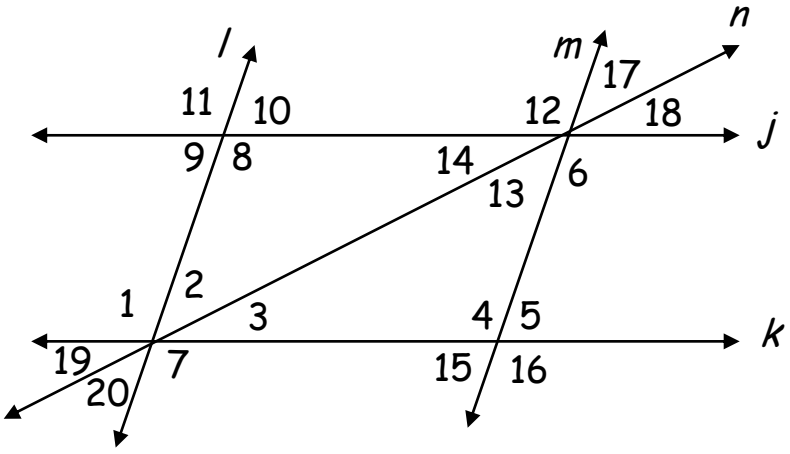
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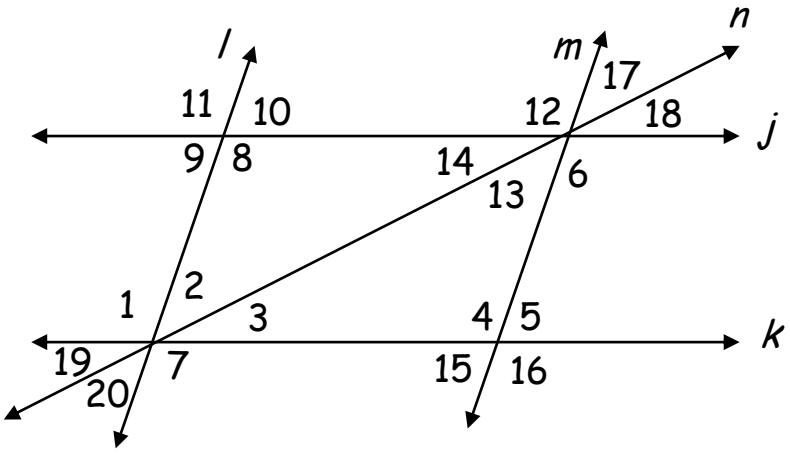
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