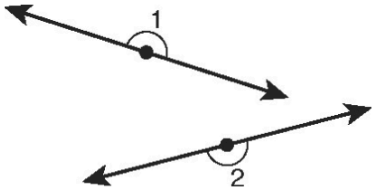
Name:_____Date:_____Per:_____

Geometric Proofs

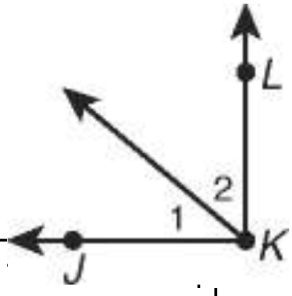
Fill in the blanks with the justifications and steps listed to complete each of the following two-column proofs.



1. **Given:** $\angle 1$ and $\angle 2$ are straight angles.
   Prove: $\angle 1 \cong \angle 2$
   Proof:

Statements	Reasons
1. a. _____	1. Given
2. $m\angle 1 = 180°$, $m\angle 2 = 180°$	2. b. _____
3. $m\angle 1 = m\angle 2$	3. Subst. Prop. of =
4. c. _____	4. Def. of $\cong$ $\measuredangle$s

2. **Given:** $\angle JKL$ is a right angle.
   Prove: $\angle 1$ and $\angle 2$ are complementary angles.
   Two-Column Proof:



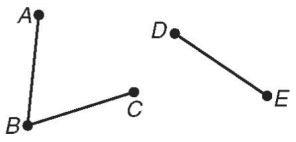
Statements	Reasons
1. $\angle JKL$ is a right angle.	1.
2.	2. Definition of right angle
3. $m\angle JKL = m\angle 1 + m\angle 2$	3. Angle Addition Postulate
4. $90° = m\angle 1 + m\angle 2$	4.
5.	5. Definition of complementary angles

Name:_____Date:_____Per:_____

3. **Given:** $\overline{AB} \cong \overline{BC}$ and $\overline{BC} \cong \overline{DE}$

Prove: $\overline{AB} \cong \overline{DE}$

Two-Column Proof:

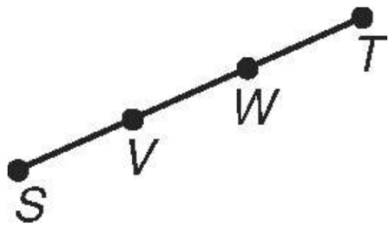


Statements	Reasons
1.	1. Given
2. $AB = BC$, $BC = DE$	2. Definition of congruent segments
3. $AB = DE$	3.
4. $\overline{AB} \cong \overline{DE}$	4. Definition of congruent segments

4. **Given:** V is the midpoint of $\overline{SW}$, and W is the midpoint of $\overline{VT}$.

Prove: $\overline{SV} \cong \overline{WT}$

Two-Column Proof:



Statements	Reasons
1. V is the midpoint of $\overline{SW}$.	1. Given
2.	2. Given
3.	3. Definition of midpoint
4. $\overline{SV} \cong \overline{WT}$	4. Transitive Property of Equality