Key

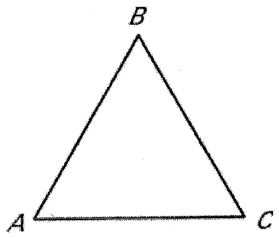
LESSON 2.6 **Practice A**

For use with pages 112–119

In Exercises 1–3, complete the proof.

1. GIVEN: $m\angle A = m\angle B, m\angle B = m\angle C$

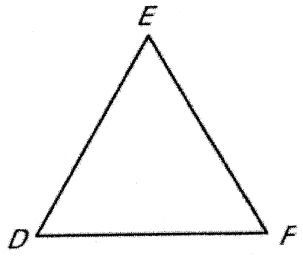
   PROVE: $\angle A \cong \angle C$



Statements	Reasons
1. $m\angle A = m\angle B$, $m\angle B = m\angle C$	1. Given
2. $m\angle A = m\angle C$	2. Transitive PO= (or Substitution PO=)
3. $\angle A \cong \angle C$	3. Defn. of $\cong$ $\angle$'s

2. GIVEN: $DE = EF, EF = DF$

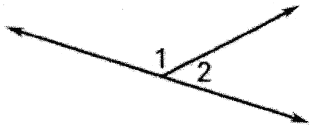
   PROVE: $\overline{DF} \cong \overline{DE}$



Statements	Reasons
1. DE = EF, EF = DF	1. Given
2. DE = DF	2. Transitive PO= (or Substitution PO=)
3. DF = DE	3. Symmetric PO=
4. $\overline{DF} \cong \overline{DE}$	4. Defn. of $\cong$ segments

3. GIVEN: $\angle 1$ and $\angle 2$ are a linear pair.

   PROVE: $m\angle 1 = 180° - m\angle 2$



Statements	Reasons
1. $\angle 1$ and $\angle 2$ are a linear pair	1. Given
2. $\angle 1$ and $\angle 2$ are supplementary	2. The angles in a linear pair are supplementary angles
3. $m\angle 1 + m\angle 2 = 180°$	3. Defn. of supplementary $\angle$'s
4. $m\angle 1 = 180 - m\angle 2$	4. Subtraction PO=

LESSON 2.6

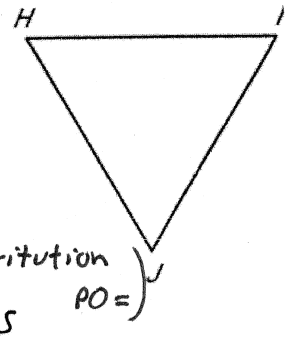
Practice B

For use with pages 112–119

In Exercises 1–4, complete the proof.

1. GIVEN: $HI = 9$, $IJ = 9$, $\overline{IJ} \cong \overline{JH}$

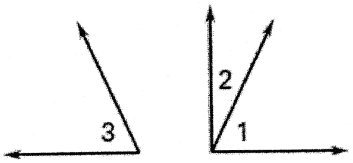
   PROVE: $\overline{HI} \cong \overline{JH}$



Statements	Reasons
1.) $HI = 9$, $IJ = 9$, $\overline{IJ} \cong \overline{JH}$	1.) Given
2.) $HI = IJ$	2.) Transitive PO = (or Substitution PO =)
3.) $\overline{HI} \cong \overline{IJ}$	3.) Definition of $\cong$ segments
4.) $\overline{HI} \cong \overline{JH}$	4.) Transitive PO $\cong$

2. GIVEN: $\angle 3$ and $\angle 2$ are complementary.
   $m\angle 1 + m\angle 2 = 90°$

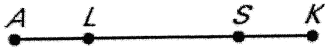
   PROVE: $\angle 3 \cong \angle 1$



Statements	Reasons
1.) $\angle 3$ and $\angle 2$ are complementary, $m\angle 1 + m\angle 2 = 90°$	1.) Given
2.) $m\angle 3 + m\angle 2 = 90°$	2.) Defn. of complementary $\angle$'s
3.) $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 2$	3.) Transitive PO = (or Substitution PO =)
4.) $m\angle 1 = m\angle 3$	4.) Subtraction PO =
5.) $\angle 1 \cong \angle 3$	5.) Defn. of $\cong$ $\angle$'s
6.) $\angle 3 \cong \angle 1$	6.) Symmetric PO $\cong$

3. GIVEN: $AL = SK$

   PROVE: $AS = LK$



Statements	Reasons
1.) $AL = SK$	1.) Given
2.) $AL + LS = AS$, $LS + SK = LK$	2.) SAP
3.) $SK + LS = AS$	3.) Substitution PO =
4.) $AS = LK$	4.) Substitution PO = (or Transitive PO =)