Lesson 26: Triangle Congruency Proofs

Classwork

Exercises 1–6

1. Given: $\overbar{AB}⊥\overbar{BC}$,$ \overbar{BC}⊥\overbar{DC}$.

 $\overbar{DB}$ bisects $∠ABC$, $\overbar{AC}$ bisects $∠DCB$.

 $EB=EC$.

Prove: $△BEA≅△CED$.



1. Given: $BF⊥AC, CE⊥AB.$

 $AE=AF$.

Prove: $△ACE≅ABF$.

1. Given: $XJ=YK$,$ PX=PY$,$ ∠ZXJ=∠ZYK$.

Prove: $JY=KX$.



1. Given: $JK=JL$,$ \overbar{JK}∥\overbar{XY}$.

Prove: $XY=XL$.

1. Given: $∠1≅∠2$,$ ∠3≅∠4$.

Prove: $\overbar{AC}≅\overbar{BD}$.



1. Given: $ m∠1=m∠2$,$ m∠3=m∠4$,$ AB=AC$.

Prove: (a) $△ABD≅ △ACD$.

 (b) $m∠5=m∠6$.

Problem Set

Use your knowledge of triangle congruence criteria to write a proof for the following:

In the figure $\overbar{RX}$ and $\overbar{RY}$ are the perpendicular bisectors of $\overbar{AB}$ and $\overbar{AC}$, respectively.

Prove: (a) $△RAX≅△RAY$.

 (b) $\overbar{RA}≅\overbar{RB}≅\overbar{RC}$.