

Geometry Honors

Proof Worksheet #4

2.8 More Practice

Name Answer Key Period

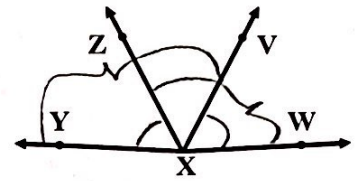
Given: $\angle YXZ \cong \angle WXV$

Prove: $\angle YXV \cong \angle WXZ$

Statements	Reasons
① $\angle YXZ \cong \angle WXV$ diagram	① Given

② $\angle ZXV \cong \angle ZXV$	② Reflexive POC
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③ $\angle YXV \cong \angle WXZ$	③ IF an angle is added to $\cong \angle$ s, then the sums are \cong .
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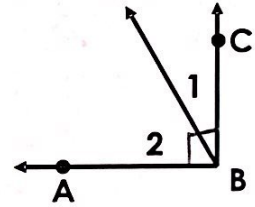
Given: $\overline{BA} \perp \overline{BC}$

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

Statements	Reasons
① $\overline{BA} \perp \overline{BC}$ diagram	① Given

② $\angle ABC$ is a right \angle	② IF rays are \perp , then they form right \angle s.
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③ $\angle 1$ and $\angle 2$ are complementary	③ IF an angle is a right \angle , then two adjacent angles that form it are complementary.
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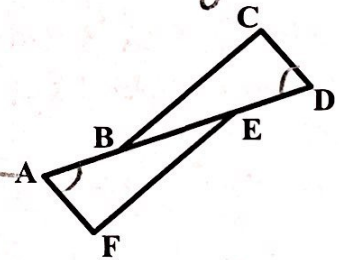
Given: $\angle A$ and $\angle E$ are comp.

$\angle B$ and $\angle D$ are comp., $\angle A \cong \angle D$

Prove: $\angle B \cong \angle E$

Statements	Reasons
① $\angle A$ and $\angle E$ are comp $\angle B$ and $\angle D$ are comp $\angle A \cong \angle D$ diagram	① Given

② $\angle B \cong \angle E$	② IF angles are complementary to $\cong \angle$ s, then they are \cong .
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Given: $\angle AEB \cong \angle BDC$

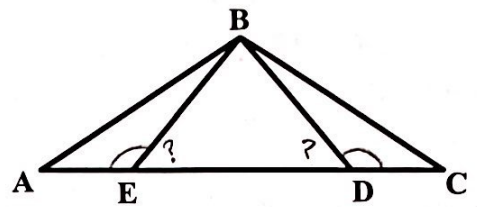
Prove: $\angle DEB \cong \angle EDB$

Statements

Reasons

- ① $\angle AEB \cong \angle BDC$
diagram
- ② $\angle AEB$ and $\angle DEB$
form a linear pair
 $\angle BDC$ and $\angle EDB$
form a linear pair
- ③ $\angle AEB$ and $\angle DEB$
are supplementary
 $\angle BDC$ and $\angle EDB$
are supplementary
- ④ $\angle DEB \cong \angle EDB$

- ① Given
- ② Assumed by diagram
- ③ If angles form a linear pair, then they are supplementary.
- ④ If angles are supplementary to \cong Δ 's, then they are \cong .



Given: \overline{XZ} bisects $\angle YXV$, \overline{XV} bisects $\angle ZWX$

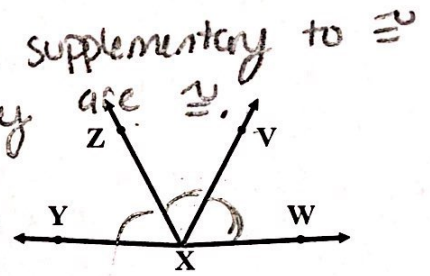
Prove: $\angle YXV \cong \angle WXZ$

Statements

Reasons

- ① \overline{XZ} bisects $\angle YXV$
 \overline{XV} bisects $\angle ZWX$
diagram
- ② $\angle YXZ \cong \angle Z XV$
 $\angle Z XV \cong \angle V XW$
- ③ $\angle YXZ \cong \angle V XW$
- ④ $\angle Z XV \cong \angle Z XV$
- ⑤ $\angle YXV \cong \angle WXZ$

- ① Given
- ② If a ray bisects an \angle , then it divides the \angle into 2 \cong Δ 's.
- ③ Transitive POC
- ④ Reflexive POC
- ⑤ If an angle is added to \cong Δ 's, then their sums are \cong .



Given: $\angle A$ and $\angle BCA$ are comp.

$\angle D$ and $\angle DCE$ are comp.

Prove: $\angle D \cong \angle A$

Statements

Reasons

- ① $\angle A$ and $\angle BCA$ are comp
diagram
- ② $\angle BCA$ and $\angle DCE$
are vertical Δ 's
- ③ $\angle BCA \cong \angle DCE$
- ④ $\angle D \cong \angle A$

- ① Given
- ② Assumed by diagram
- ③ If Δ 's are vertical Δ 's, then they are \cong .
- ④ If Δ 's are complementary to \cong Δ 's, then they are \cong .

