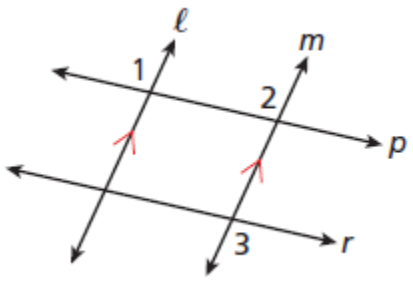
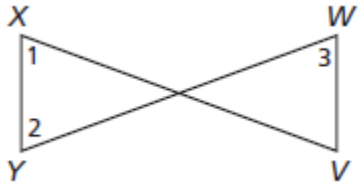
Geometry – Chapter 3 Proof Practice

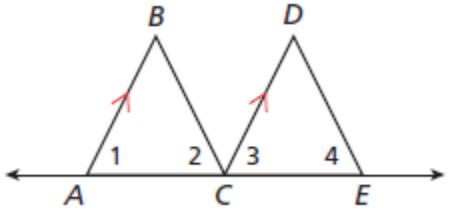
1 **Given:** $\ell \parallel m, \angle 1 \cong \angle 3$
Prove: $r \parallel p$



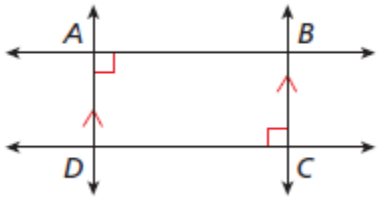
2 **Given:** $\angle 1 \cong \angle 2, \angle 3 \cong \angle 1$
Prove: $XY \parallel WV$



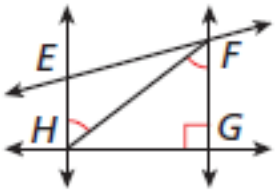
3 **Given:** $\overline{AB} \parallel \overline{CD}, \angle 1 \cong \angle 2, \angle 3 \cong \angle 4$
Prove: $\overline{BC} \parallel \overline{DE}$



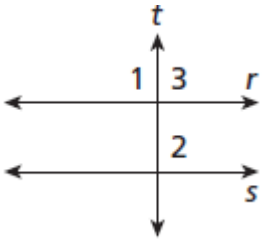
4 **Given:** $\overleftrightarrow{AD} \parallel \overleftrightarrow{BC}, \overleftrightarrow{AD} \perp \overleftrightarrow{AB}, \overleftrightarrow{BC} \perp \overleftrightarrow{DC}$
Prove: $\overleftrightarrow{AB} \parallel \overleftrightarrow{DC}$



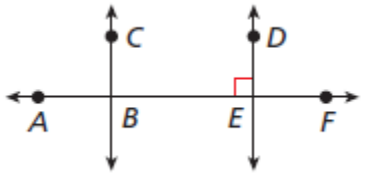
5 **Given:** $\angle EHF \cong \angle HFG, \overleftrightarrow{FG} \perp \overleftrightarrow{GH}$
Prove: $\overleftrightarrow{EH} \perp \overleftrightarrow{GH}$



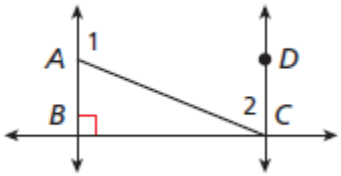
6 **Given:** $r \parallel s, \angle 1 \cong \angle 2$
Prove: $r \perp t$



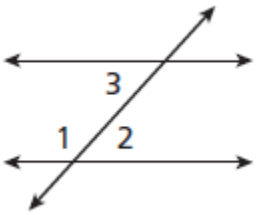
7 **Given:** $\angle ABC \cong \angle CBE$, $\overleftrightarrow{DE} \perp \overleftrightarrow{AF}$
Prove: $\overleftrightarrow{CB} \parallel \overleftrightarrow{DE}$



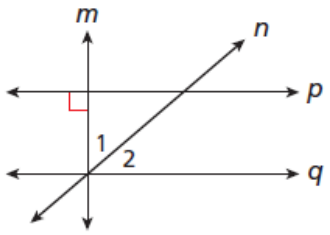
8 **Given:** $\overleftrightarrow{AB} \perp \overleftrightarrow{BC}$, $m\angle 1 + m\angle 2 = 180°$
Prove: $\overleftrightarrow{BC} \perp \overleftrightarrow{CD}$



9 **Given:** $\angle 1$ is supplementary to $\angle 3$.
Prove: $\angle 2 \cong \angle 3$

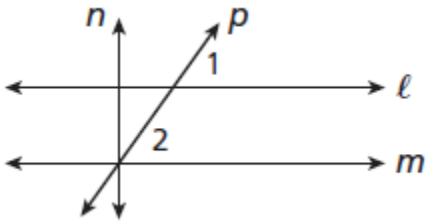


10 **Given:** $m \perp p$, $\angle 1$ and $\angle 2$ are complementary.
Prove: $p \parallel q$



11 Given: $\angle 1 \cong \angle 2$, $n \perp \ell$

Prove: $n \perp m$



12 **Given:** $\angle 1 \cong \angle 2$, $\ell \perp n$
Prove: $\ell \perp p$