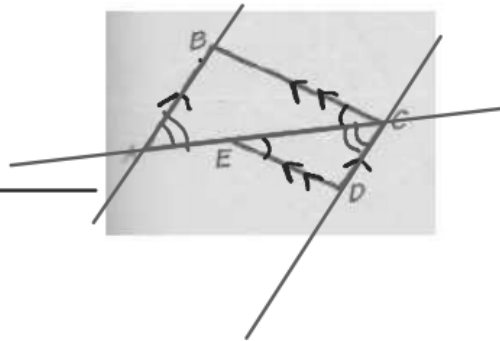


Math 3
 Proving Triangles Similar

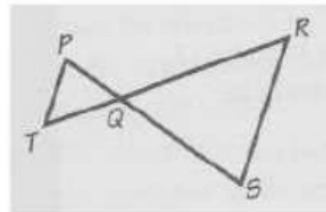
Name _____

1. Given: $\overline{BC} \parallel \overline{ED}, \overline{AB} \parallel \overline{DC}$
 Prove: $\triangle ABC \sim \triangle CDE$

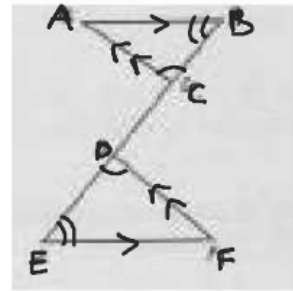


Statement	Reason
1) $\overline{BC} \parallel \overline{ED}$ $\overline{AB} \parallel \overline{DC}$	1) Given
2) $\angle BCA \cong \angle DEC$ $\angle BAC \cong \angle DCE$	2) Alternate Interior \angle 's \cong .
3) $\triangle ABC \sim \triangle CDE$	3) AA

2. Given: $\triangle QTP \sim \triangle QRS$
 Prove: $\overline{PT} \parallel \overline{SR}$

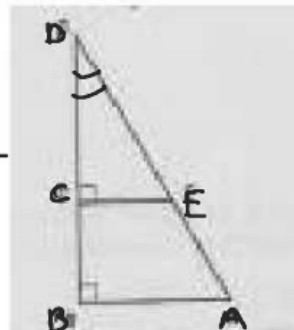


3. Given: $\overline{AB} \parallel \overline{EF}, \overline{AC} \parallel \overline{DF}$
 Prove: $\triangle ABC \sim \triangle FED$



Statement	Reason
1) $\overline{AB} \parallel \overline{EF}$ $\overline{AC} \parallel \overline{DF}$	1) Given
2) $\angle EDF \cong \angle BCA$	2) Alternate Exterior \angle 's \cong .
3) $\angle ABC \cong \angle FE$	3) Alternate Interior \angle 's \cong .
4) $\triangle ABC \sim \triangle FED$	4) AA

4. Given: $\overline{AB} \perp \overline{BD}, \overline{EC} \perp \overline{BD}$
 Prove: $\triangle BDA \sim \triangle CDE$



Statement	Reason
1) $\overline{AB} \perp \overline{BD}, \overline{EC} \perp \overline{BD}$	1) Given
2) $\angle DCE$ and $\angle DBA$ are Rt \angle 's	2) Def of \perp lines
3) $\angle DCE \cong \angle DBA$	3) All Rt \angle 's \cong .
4) $\angle D \cong \angle D$	4) Reflexive prop
5) $\triangle BDA \sim \triangle CDE$	5) A.A.