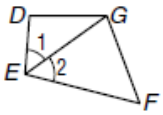
Acc. Geometry **Name**_____

5.3 Practice Indirect Proof **Date**_____

1. **Complete the proof.**



Given: $\angle 1 \cong \angle 2$ and $\overline{DG}$ is not congruent to $\overline{FG}$.
Prove: $\overline{DE}$ is not congruent to $\overline{FE}$.

3. Assume that _____ Assume the conclusion is false.

4. $\overline{EG} \cong \overline{EG}$ _____

5. $\triangle EDG \cong \triangle EFG$ _____

6. _____

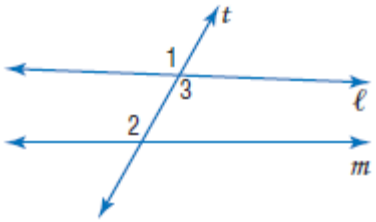
7. This contradicts the given information, so the assumption must be _____

8. Therefore, _____

Write an indirect proof for each of the following.

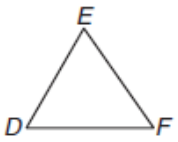
2. **Given:**
Prove: A triangle cannot have two right angles.

3. **Given:** $m\angle 2 \neq m\angle 1$
Prove: $\ell \nparallel m$

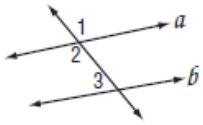


Write an indirect proof for each of the following.

4. **Given:** $\angle D \ncong \angle F$.
Prove: $DE \neq EF$



5. **Given:** $m\angle 2 + m\angle 3 \neq 180$
Prove: $a \nparallel b$



6. **Given:** $\overline{PQ} \cong \overline{PR}$
$\angle 1 \ncong \angle 2$
Prove: $\overline{PZ}$ is not a median of $\triangle PQR$.