Review of Proofs for Final Exam

The proof part of the final will consist of 6 – 7 proofs. There will be one logic proof, one indirect proof, and one theorem to prove. All proofs must be done in flow proof form with the exception of the logic and indirect proofs.

The indirect proof must contain all 5 components of an indirect proof. Your argument must flow logically, must be thorough and you must provide reasons for each statement. While you do not want to be verbose, you also do not want to be lacking in logical steps.

Complete the following proofs. This is worth 8 points.

To receive full credit, your work must be:

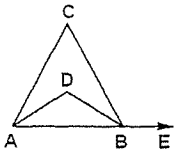
- thorough
- neat
- legible
- complete
- done on looseleaf

Name _____ Due _____

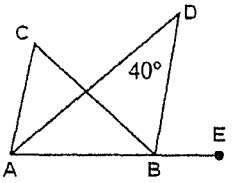
PROOFS REVIEW

a. **Given:** $\overline{AD}$ bisects $\angle CAB$.
$\overline{BD}$ bisects $\angle CBA$.
$m\angle CAB = m\angle CBA$

Prove: $\angle ADB \cong \angle CBE$

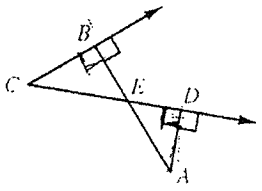


b. $\overline{AD}$ bisects $\angle CAB$.
$\overline{BD}$ bisects $\angle EBC$. $m\angle D = 40$
Find $m\angle C$.

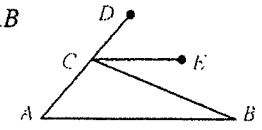


c. **Given:** $\overline{AB} \perp \overline{BC}$, $\overline{AD} \perp \overline{CD}$

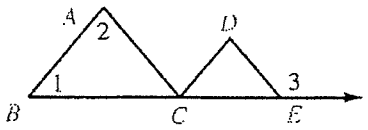
Prove: $\angle A \cong \angle C$



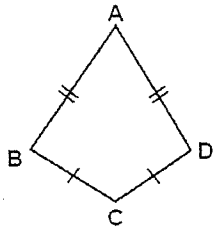
d. **Given:** $\overline{CE}$ bisects $\angle BCD$. $\angle A \cong \angle B$
Prove: $\overline{CE} \| \overline{AB}$



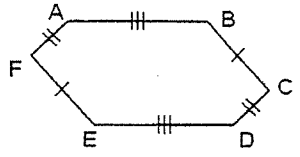
e. **Given:** $\overline{AC} \| \overline{DE}$
Prove: $m\angle 3 = m\angle 1 + m\angle 2$



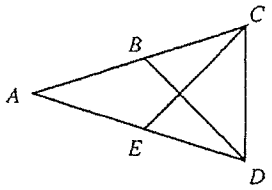
. Prove that if $\overline{AD} \cong \overline{AB}$ and $\overline{CD} \cong \overline{CB}$, then $\angle D \cong \angle B$.



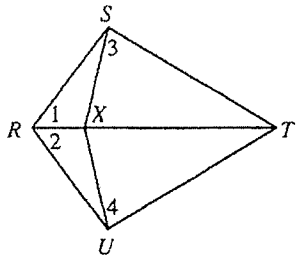
g. Prove that if $\overline{AB} \cong \overline{DE}$, $\overline{AF} \cong \overline{CD}$, $\overline{EF} \cong \overline{BC}$, and $\angle F \cong \angle C$, then $\overline{AB} \| \overline{ED}$.



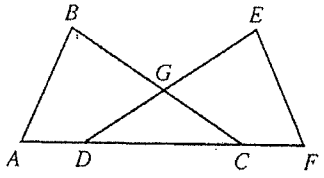
h. **Given:** $\overline{BC} \cong \overline{ED}$
$\angle ADC \cong \angle ACD$
Prove: $\overline{AB} \cong \overline{AE}$



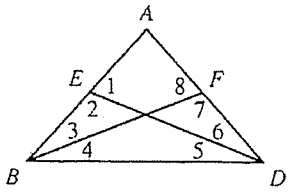
i. **Given:** $\overline{RS} \cong \overline{RU}$, $\angle 1 \cong \angle 2$
Prove: $\angle 3 \cong \angle 4$



j. **Given:** $\overline{AD} \cong \overline{FC}$, $\overline{AB} \cong \overline{FE}$
$\angle A \cong \angle F$
Prove: $\triangle CDG$ is isosceles.

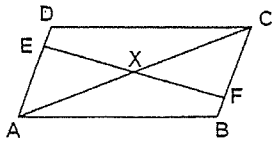


k. $\angle ABD \cong \angle ADB$, $\overline{BF}$ and $\overline{DE}$ bisect $\angle ABD$ and $\angle ADB$ respectively. Prove that $\angle 1 \cong \angle 8$.



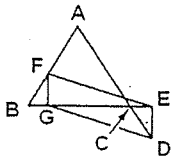
l. **Given:** $\square ABCD$, $\overline{DE} \cong \overline{FB}$

Prove: X bisects $\overline{EF}$.



m. **Given:** $EFGD$ is a $\square$. $\overline{ED} \perp \overline{BE}$, $\overline{BF} \cong \overline{CD}$

Prove: $\triangle ABC$ is isosceles.

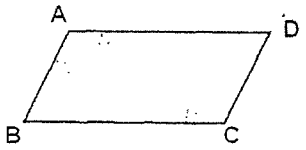


n. Prove the Theorem:

Given: $\angle A \cong \angle C$

$\angle B \cong \angle D$

Prove: $ABCD$ is a $\square$.



o. **Given:** $ABCD$ is a $\square$.

$AE = CF$

Prove: $BFDE$ is a $\square$.