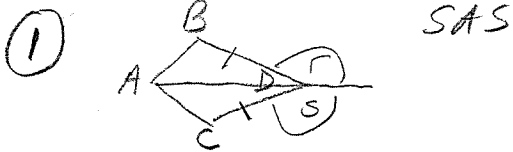


MIDTERM REVIEW - PROOFS



① $\angle ADB$ & $\angle ADC$ linear pair. $\xrightarrow{\textcircled{2}}$ $\angle ADB$ supp $\angle ADC$
 $\angle ADC$ & $\angle ADB$ linear pair. \rightarrow $\angle ADC$ supp $\angle ADB$

- ① Def. of linear pair.
- ② Linear pair postulate
- ③ \cong supp. Thm
- ④ Given
- ⑤ Reflexive Prop.
- ⑥ SAS \cong SAS
- ⑦ CPCTC

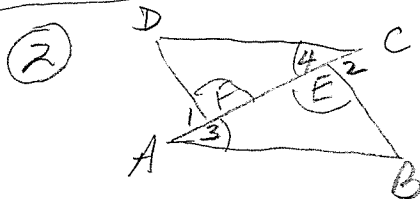
③ $\angle 1 \cong \angle 2$

④ $\angle ADB \cong \angle ADC$

⑤ $\overline{BD} \cong \overline{CD}$

⑥ $\overline{AD} \cong \overline{AD}$

\rightarrow ⑦ $\triangle ADB \cong \triangle ADC \rightarrow$ ⑧ $\overline{AB} \cong \overline{AC}$



① $\angle 1$ & $\angle DFE$ linear pair \rightarrow ② $\angle 1$ supp $\angle DFE$
 $\angle 2$ & $\angle AEB$ linear pair \rightarrow $\angle 2$ supp $\angle AEB$

- ① Def linear pair
- ② linear pair postulate
- ③ Given
- ④ \cong supp. Thm
- ⑤ Given
- ⑥ Common Segments Thm
- ⑦ Given
- ⑧ ASA \cong ASA
- ⑨ CPCTC

③ $\angle 1 \cong \angle 2$

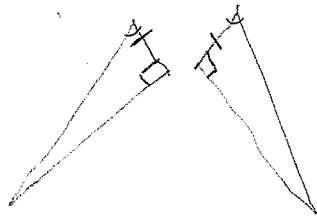
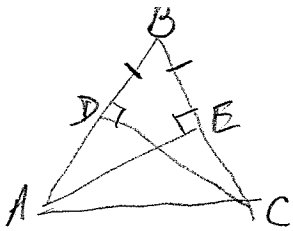
④ $\angle DFE \cong \angle AEB$

⑤ $\overline{AF} \cong \overline{CE} \rightarrow$ ⑥ $\overline{AE} \cong \overline{FC}$

⑦ $\angle 3 \cong \angle 4$

\rightarrow ⑧ $\triangle FDC \cong \triangle EBA \rightarrow$ ⑨ $\angle B \cong \angle D$

③



ASA

① $\overline{AD} \perp \overline{BC} \rightarrow \triangle AEB$ is Rt.
 $\overline{BE} \perp \overline{AC} \rightarrow \triangle BDC$ is Rt.

③ $\triangle AEB \cong \triangle BDC$

④ $\overline{BD} \cong \overline{CE}$

⑤ $\angle B \cong \angle B$

⑥ $\triangle ABE \cong \triangle CBD$

⑦ $\overline{AE} \cong \overline{CD}$

① Given

② \perp lines form Rt \angle s.

③ All Right \angle s \cong .

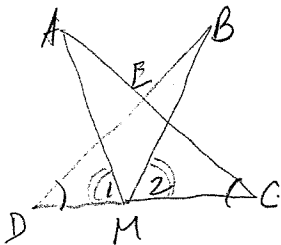
④ Given

⑤ Reflexive Prop

⑥ ASA \cong ASA

⑦ CPCTC

④



* Must show $\triangle AMC \cong \triangle DMB$.

① $\angle 2 \cong \angle 1 \rightarrow \triangle AMC \cong \triangle DMB$

③ M midpt AC \rightarrow ④ $\overline{DM} \cong \overline{MC}$

⑤ $\angle D \cong \angle C$

\rightarrow ⑥ $\triangle AMC \cong \triangle BMD \rightarrow$ ⑦ $\overline{DB} \cong \overline{CA}$

① Given

② Common Angle Thm

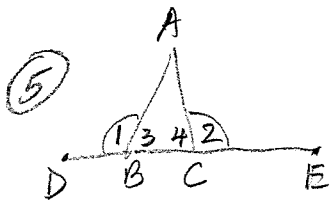
③ Given

④ Def of midpt

⑤ Given

⑥ ASA \cong ASA

⑦ CPCTC



① $\angle 1$ & $\angle 3$ linear pair \rightarrow ② $\angle 1$ supp $\angle 3$
 $\angle 2$ & $\angle 4$ linear pair \rightarrow $\angle 2$ supp $\angle 4$
 ③ $\angle 1 \cong \angle 2$ } \rightarrow ④ $\angle 3 \cong \angle 4$

① Def of linear pair.

② Linear Pair Post.

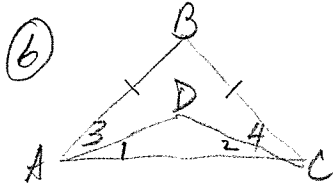
③ Given

④ \cong supp. Thm.

⑤ If 2 \angle s \cong in $\Delta \rightarrow$ sides opp \cong .

⑥ If 2 sides of $\Delta \cong \rightarrow$ isos. Δ .

⑤ $\overline{AB} \cong \overline{AC} \rightarrow$ ⑥ ΔABC is isosceles.



① $\overline{AB} \cong \overline{BC} \rightarrow$ ② $\angle BAC \cong \angle BCA \rightarrow$ ③ $m\angle BAC = m\angle BCA$

④ $m\angle BAC = m\angle 3 + m\angle 1$
 $m\angle BCA = m\angle 4 + m\angle 2$

\rightarrow ⑤ $m\angle 3 + m\angle 1 = m\angle 4 + m\angle 2$ } \rightarrow ⑦ $m\angle 1 = m\angle 2$

⑥ $\angle 3 \cong \angle 4 \rightarrow$ ⑦ $m\angle 3 = m\angle 4$

\rightarrow ⑧ $\angle 1 \cong \angle 2 \rightarrow$ ⑩ $\overline{AD} \cong \overline{CD} \rightarrow$ ⑪ ΔADC isosceles.

① Given

② In Δ , if 2 sides $\cong \rightarrow$ opp \angle s \cong .

③ Def of $\cong \angle$ s.

④ Angle Addition Post.

⑤ Substitution

⑥ Given

⑦ Def of $\cong \angle$ s.

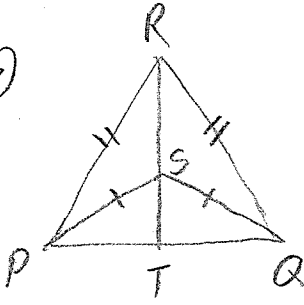
⑧ Subtraction Prop.

⑨ Def $\cong \angle$ s

⑩ In Δ , if 2 \angle s $\cong \rightarrow$ opp sides \cong .

⑪ If 2 sides of $\Delta \cong \rightarrow$ isos. Δ .

* ⑦



① $\overline{RP} \cong \overline{RQ} \rightarrow$ ② R is equidistant from endpoints P & Q. \rightarrow ③ R is on the \perp bisector of \overline{PQ} .

④ $\overline{SP} \cong \overline{SQ} \rightarrow$ ⑤ S is equidistant from endpoints P & Q. \rightarrow ⑥ S is on the \perp bisector of \overline{PQ} .

\rightarrow ⑦ \overline{RS} is the \perp bisector of \overline{PQ} .

② \overline{RT} bisects \overline{PQ}

- ① Given
- ② Def. of equidistant
- ③ If a pt is equidistant from 2 endpts of a seg, then pt is on \perp bisector of the seg.

- ⑦ 2 pts determine a line.
- ⑧ 2 pts determine a line.

- ④ Given
- ⑤ Def of equidistant
- ⑥ Same as #3