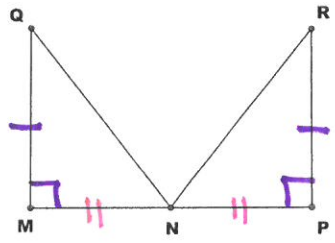


Do This Practice Page 15

Day 4: Practice with Proof

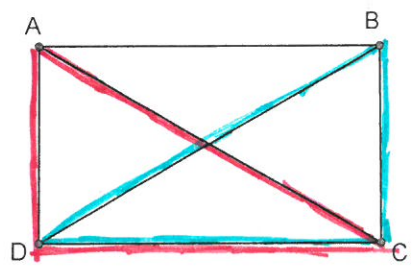
Ex 1) Given: $\overline{MQ} \cong \overline{PR}$, $\angle M$ and $\angle P$ are right angles.
 N is the midpoint of \overline{MP}
 Prove: $\angle MQN \cong \angle PRN$



- 1) $\overline{MQ} \cong \overline{PR}$,
 $\angle M$ and $\angle P$ are rt. \angle s
- 2) N is mdpt of \overline{MP}
- 3) $\overline{MN} \cong \overline{PN}$
- 4) $\angle M \cong \angle P$
- 5) $\triangle MQN \cong \triangle PRN$
- 6) $\angle MQN \cong \angle PRN$

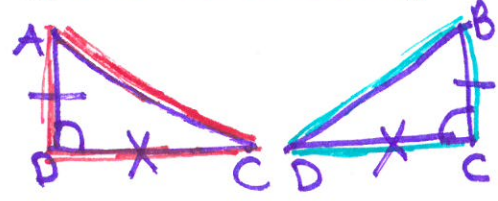
- 1) Given
- 2) Given
- 3) Defn of mdpt
- 4) All right angles are congruent
- 5) SAS \cong Postulate
- 6) CPCTC

Ex 2) Given: $\overline{AD} \cong \overline{BC}$
 $\angle ADC \cong \angle BCD$
 Prove: $\overline{AC} \cong \overline{BD}$

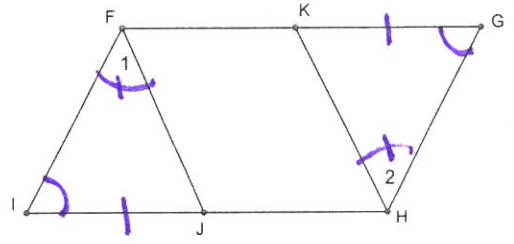


- 1) $\overline{AD} \cong \overline{BC}$,
 $\angle ADC \cong \angle BCD$
- 2) $\overline{DC} \cong \overline{CD}$
- 3) $\triangle ADC \cong \triangle BCD$
- 4) $\overline{AC} \cong \overline{BD}$

- 1) Given
- 2) Reflexive Prop. of \cong
- 3) SAS \cong Postulate
- 4) CPCTC



Ex 3) Given: $\angle I \cong \angle G$
 $\angle 1 \cong \angle 2$
 $\overline{JI} \cong \overline{KG}$



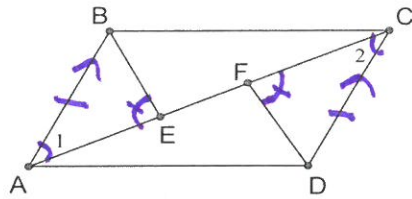
- 1) $\angle I \cong \angle G$
 $\angle 1 \cong \angle 2$
 $\overline{JI} \cong \overline{KG}$
- 2) $\triangle FIJ \cong \triangle HGK$
- 3) $\overline{FJ} \cong \overline{HK}$

- 1) Given
- 2) AAS Theorem
- 3) CPCTC

Be sure to do

Fix ~~$\angle 1 \cong \angle 2$~~ $\overline{FJ} \cong \overline{HK}$

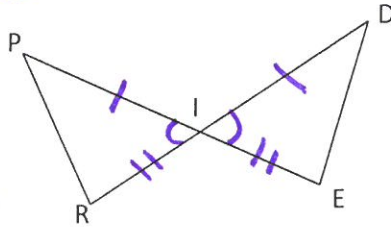
Ex 4) Given: $\overline{AB} \parallel \overline{CD}$
 $\overline{AB} \cong \overline{CD}$
 $\angle AEB \cong \angle DFC$
 Prove: $\overline{BE} \cong \overline{DF}$



* Be sure to do

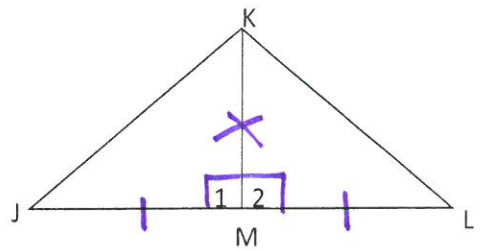
- | | |
|--|--|
| 1) $\overline{AB} \parallel \overline{CD}$ | 1) Given |
| 2) $\overline{AB} \cong \overline{CD}$ | 2) Given |
| 3) $\angle AEB \cong \angle DFC$ | 3) Given |
| 4) $\angle 1 \cong \angle 2$ | 4) If lines are \parallel , then alternate interior angles are \cong |
| 5) $\triangle ABE \cong \triangle CDF$ | 5) AAS Theorem |
| 6) $\overline{BE} \cong \overline{DF}$ | 6) CPCTC |

Ex 5) Given: $\overline{PI} \cong \overline{DI}$
 $\overline{RI} \cong \overline{EI}$
 Prove: $\angle R \cong \angle E$



- | | |
|--|------------------------------------|
| 1) $\overline{PI} \cong \overline{DI}$ | 1) Given |
| 2) $\angle PIR \cong \angle DIE$ | 2) Vertical \angle s are \cong |
| 3) $\overline{RI} \cong \overline{EI}$ | 3) Given |
| 4) $\triangle PIR \cong \triangle DIE$ | 4) SAS \cong Postulate |
| 5) $\angle R \cong \angle E$ | 5) CPCTC |

Ex 6) Given: $\overline{KM} \perp \overline{JL}$
 M is the midpoint of \overline{JL}
 Prove: $\triangle JKM \cong \triangle LKM$



* Be sure to do

- | | |
|---|---------------------------------|
| 1) $\overline{KM} \perp \overline{JL}$ | 1) Given |
| 2) $\angle 1$ and $\angle 2$ are right angles | 2) Defn of \perp lines |
| 3) M is the mdpt of \overline{JL} | 3) Given |
| 4) $\overline{JM} \cong \overline{LM}$ | 4) Defn of midpoint |
| 5) $\overline{KM} \cong \overline{KM}$ | 5) Reflexive Property |
| 6) $\angle 1 \cong \angle 2$ | 6) All right angles are \cong |
| 7) $\triangle JKM \cong \triangle LKM$ | 7) SAS Postulate |