

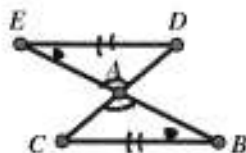
1. Prove the following relationships. \* SOME OF THESE CAN BE DONE IN MULTIPLE WAYS

a) GIVEN:

$$\angle B \cong \angle E \text{ \& } \overline{CB} \cong \overline{DE}$$

PROVE:

$$\triangle EAD \cong \triangle BAC$$



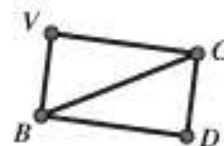
STATEMENT	REASON
$\angle B \cong \angle E, \overline{CB} \cong \overline{DE}$	GIVEN
$\angle EAD \cong \angle BAC$	VERTICAL $\angle \cong$
$\triangle EAD \cong \triangle BAC$	AAS

b) GIVEN:

$$\overline{VC} \cong \overline{DB} \text{ \& } \overline{VB} \cong \overline{DC}$$

PROVE:

$$\triangle BVC \cong \triangle CDB$$



STATEMENT	REASON
$\overline{VC} \cong \overline{DB}, \overline{VB} \cong \overline{DC}$	GIVEN
$\overline{BC} \cong \overline{BC}$	REFLEXIVE PROP. (COMMON SIDE)
$\triangle BVC \cong \triangle CDB$	SSS

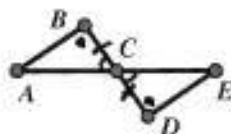
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\* c) GIVEN:

$$\angle B \cong \angle D \text{ \& } \overline{BC} \cong \overline{DC}$$

PROVE:

$$\triangle ACB \cong \triangle ECD$$



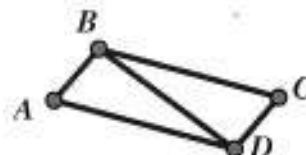
STATEMENT	REASON
$\angle B \cong \angle D, \overline{BC} \cong \overline{DC}$	GIVEN
$\angle ACB \cong \angle ECD$	VERTICAL $\angle \cong$
$\triangle ACB \cong \triangle ECD$	ASA

d) GIVEN:

$$\overline{AD} \cong \overline{CB} \text{ \& } \overline{AB} \cong \overline{CD}$$

PROVE:

$$\triangle ABD \cong \triangle CDB$$



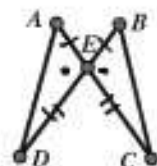
STATEMENT	REASON
$\overline{AD} \cong \overline{CB}, \overline{AB} \cong \overline{CD}$	GIVEN
$\overline{BD} \cong \overline{BD}$	REFLEXIVE PROP. (COMMON SIDE)
$\triangle ABD \cong \triangle CDB$	SSS

e) GIVEN:

$$\overline{AE} \cong \overline{BE} \text{ \& } \overline{DE} \cong \overline{CE}$$

PROVE:

$$\triangle AED \cong \triangle BEC$$



STATEMENT	REASON
$\overline{AE} \cong \overline{BE}, \overline{DE} \cong \overline{CE}$	GIVEN
$\angle AED \cong \angle BEC$	VERTICAL $\angle \cong$
$\triangle AED \cong \triangle BEC$	SAS

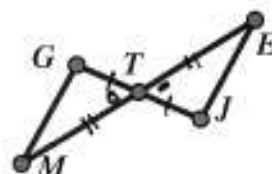
f) GIVEN:

T is the midpoint of  $\overline{ME}$

& T is the midpoint of  $\overline{GJ}$

PROVE:

$$\triangle MGT \cong \triangle EJT$$



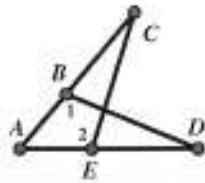
STATEMENT	REASON
T IS MIDPOINT $\overline{ME}$	GIVEN
T IS MIDPOINT $\overline{GJ}$	GIVEN
$\overline{MT} \cong \overline{ET}$	DEF. MIDPOINT
$\overline{GT} \cong \overline{JT}$	DEF. MIDPOINT
$\angle GTM \cong \angle JTE$	VERTICAL $\angle \cong$
$\triangle MGT \cong \triangle EJT$	SAS

\* SOME OF THESE CAN BE DONE IN OTHER WAYS.

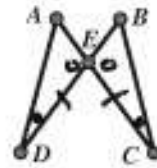
G.CO.8 WORKSHEET 2 - PATTERSON

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g) GIVEN:  
 $\angle 1 \cong \angle 2$  &  $\overline{BD} \cong \overline{EC}$   
 PROVE:  
 $\triangle AEC \cong \triangle ABD$



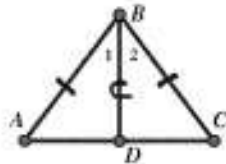
h) GIVEN:  
 $\angle D \cong \angle C$  &  $\overline{DE} \cong \overline{CE}$   
 PROVE:  
 $\triangle EDA \cong \triangle ECB$



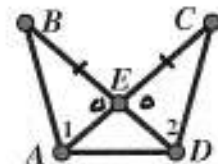
STATEMENT	REASON
$\angle 1 \cong \angle 2$ $\overline{BD} \cong \overline{EC}$	GIVEN
$\angle A \cong \angle A$	Reflexive Prop. (COMMON $\angle$ )
$\triangle AEC \cong \triangle ABD$	AAS

STATEMENT	REASON
$\angle D \cong \angle C$ , $\overline{DE} \cong \overline{CE}$	GIVEN
$\angle DEA \cong \angle CEB$	VERTICAL $\angle \cong$
$\triangle EDA \cong \triangle ECB$	ASA

i) GIVEN:  
 $\angle 1 \cong \angle 2$  &  $\overline{BA} \cong \overline{BC}$   
 PROVE:  
 $\triangle ABD \cong \triangle CBD$



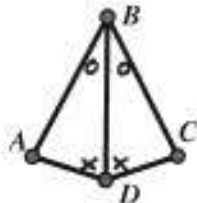
j) GIVEN:  
 $\angle 1 \cong \angle 2$  &  $\overline{EB} \cong \overline{EC}$   
 PROVE:  
 $\triangle AEB \cong \triangle DEC$



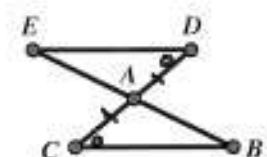
STATEMENT	REASON
$\angle 1 \cong \angle 2$ $\overline{BA} \cong \overline{BC}$	GIVEN
$\overline{BD} \cong \overline{BD}$	Reflexive Prop. (COMMON SIDE)
$\triangle ABD \cong \triangle CBD$	SAS

STATEMENT	REASON
$\angle 1 \cong \angle 2$ $\overline{EB} \cong \overline{EC}$	GIVEN
$\angle AEB \cong \angle DEC$	VERTICAL $\angle \cong$
$\triangle AEB \cong \triangle DEC$	AAS

k) GIVEN:  
 $\overline{BD}$  bisects  $\angle ADC$   
 $\overline{BD}$  bisects  $\angle ABC$   
 PROVE:  
 $\triangle DAB \cong \triangle DCB$



l) GIVEN:  
 $\angle D \cong \angle C$  &  $\overline{CA} \cong \overline{DA}$   
 PROVE:  
 $\triangle EAD \cong \triangle BAC$



STATEMENT	REASON
$\overline{BD}$ BISECTS $\angle ADC$ ; $\angle ABC$	GIVEN
$\angle ABD \cong \angle CBD$	Def BISECTOR
$\angle ADB \cong \angle CDB$	Def $\angle$ Bisector
$\overline{BD} \cong \overline{BD}$	Reflexive Prop. (COMMON SIDE)
$\triangle DAB \cong \triangle DCB$	ASA

STATEMENT	REASON
$\angle D \cong \angle C$ $\overline{CA} \cong \overline{DA}$	GIVEN
$\angle EAD \cong \angle BAC$	VERTICAL $\angle \cong$
$\triangle EAD \cong \triangle BAC$	ASA