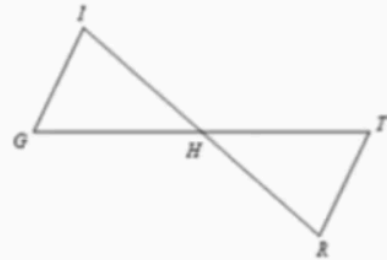


5.2 Triangle Proofs

Write your
questions here!

Given: H is the midpoint of \overline{GT}
 $\overline{HR} \cong \overline{IH}$

Prove: $\triangle GHI \cong \triangle THR$

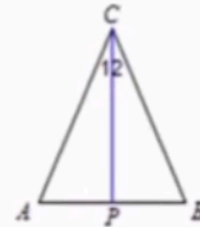


WHY ARE THE TWO TRIANGLES CONGRUENT? _____

STATEMENTS	REASONS
1. $\overline{HR} \cong \overline{IH}$ H is the midpoint of \overline{GT}	1.
2.	2.
3.	3.
4.	4.

Given: $\triangle ACB$ is an isosceles triangle with base \overline{AB}
 \overline{CP} is an angle bisector of $\angle ACB$

Prove: $\triangle ACP \cong \triangle BCP$



WHY ARE THE TWO TRIANGLES CONGRUENT? _____

STATEMENTS	REASONS
1. $\triangle ACB$ is an isosceles triangle \overline{CP} is an angle bisector of $\angle ACB$	1.
2.	2.
3.	3.
4.	4.
5.	5.

Write your
questions here!

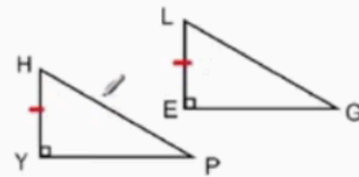


Given: $\angle HYP$ and $\angle LEG$ are right angles

$$\overline{HY} \cong \overline{EL}$$

$$\overline{HP} \cong \overline{LG}$$

Prove: $\triangle HYP \cong \triangle LEG$



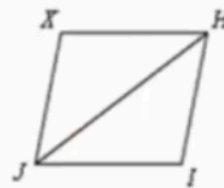
WHY ARE THE TWO TRIANGLES CONGRUENT? _____

STATEMENTS	REASONS
1. $\angle HYP$ and $\angle LEG$ are right angles $\overline{HY} \cong \overline{EL}$ $\overline{HP} \cong \overline{LG}$	1.
2.	2.
3.	3.

Given: $\angle X \cong \angle I$

$$\overline{XJ} \parallel \overline{IH}$$

Prove: $\triangle JHI \cong \triangle HJX$



WHY ARE THE TWO TRIANGLES CONGRUENT? _____

STATEMENTS	REASONS
1. $\overline{XJ} \parallel \overline{IH}$ $\angle X \cong \angle I$	1.
2.	2.
3.	3.
4.	4.

Given: $\overline{AC} \cong \overline{BC}$

\overline{CP} is perpendicular to \overline{AB}

Prove: $\triangle ACP \cong \triangle BCP$



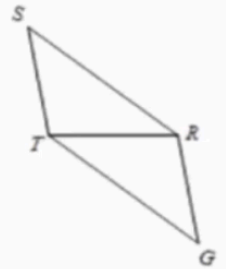
WHY ARE THE TWO TRIANGLES CONGRUENT? _____

STATEMENTS	REASONS
1. $\overline{AC} \cong \overline{BC}$ \overline{CP} is perpendicular to \overline{AB}	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.

4.4 CPCTC and HL

Corresponding Parts of Congruent Triangles are Congruent

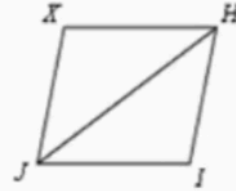
$$\triangle RTS \cong \triangle TRG$$



$$\overline{SR} \cong ?$$

Given: $\overline{XJ} \cong \overline{HI}$
 $\overline{XJ} \parallel \overline{IH}$

Prove: $\overline{XH} \cong \overline{JI}$



WHY ARE THE TWO TRIANGLES CONGRUENT? _____

STATEMENTS	REASONS
1. $\overline{XJ} \parallel \overline{IH}$ $\overline{XJ} \cong \overline{HI}$	1.
2.	2.
3.	3.
4.	4.
5.	5.

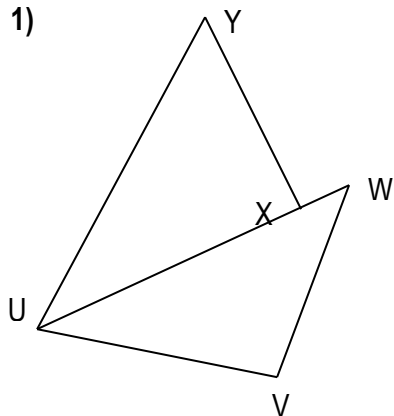
flippedmath

Now,
summarize
your notes
here!

Summarize your notes:

5.2 Practice Problems

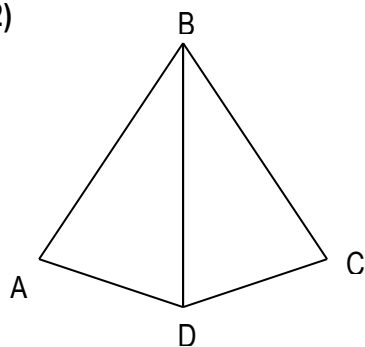
1)



Given: $\angle XUY \cong \angle VUW$; $\overline{UW} \cong \overline{UY}$; $\angle VWU \cong \angle XYU$

Prove: $\triangle UVW \cong \triangle UXY$

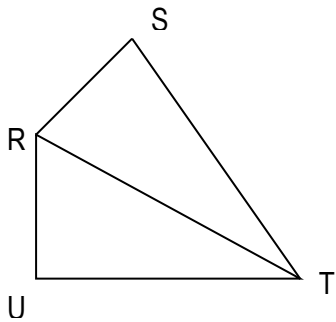
2)



Given: \overline{BD} bisects $\angle ADC$; $\angle DAB \cong \angle DCB$

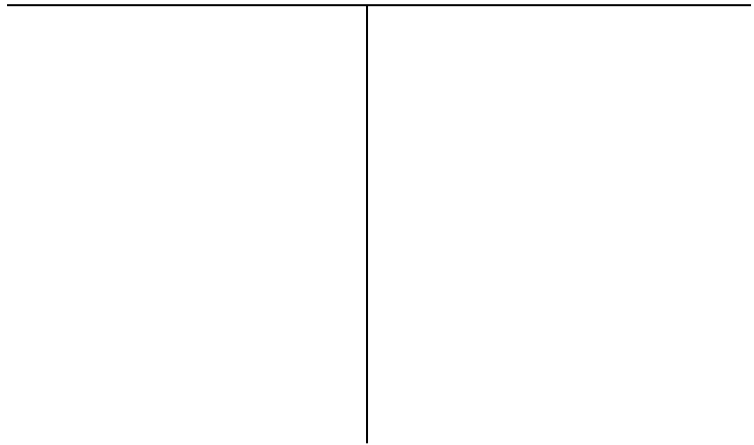
Prove: $\angle ABD \cong \angle CBD$

3)

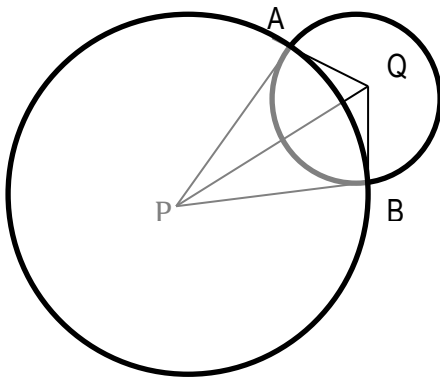


Given: $\overline{SR} \perp \overline{ST}$, $\overline{RU} \perp \overline{UT}$, $\overline{RS} \cong \overline{RU}$

Prove: $\overline{UT} \cong \overline{ST}$

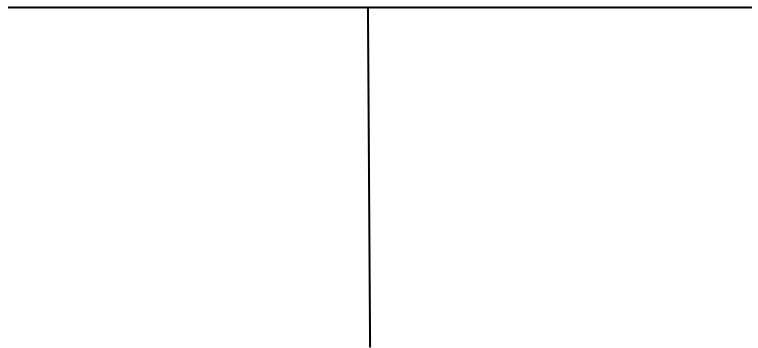


4)

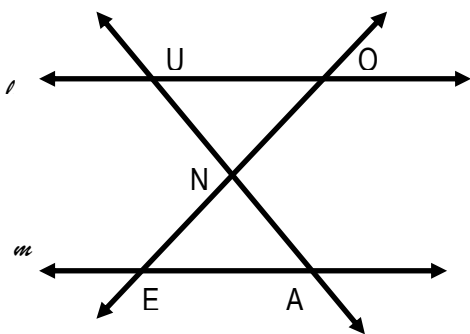


Given: Circle P and Circle Q intersect at A and B.

Prove: $\angle APQ \cong \angle BPQ$

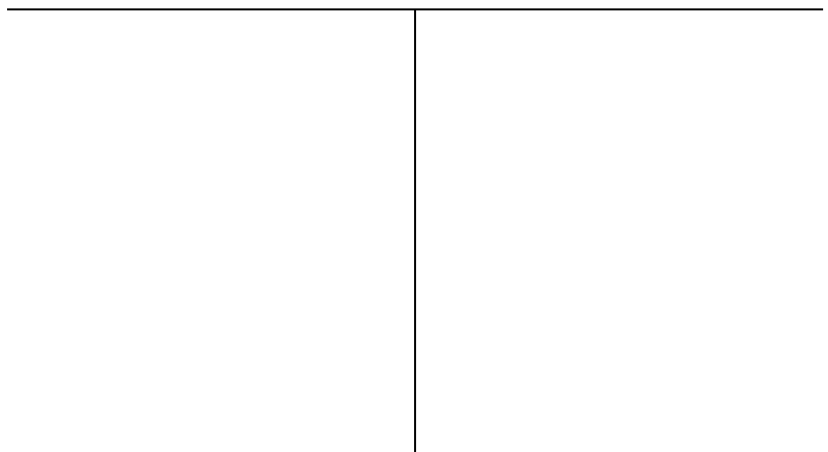


5)

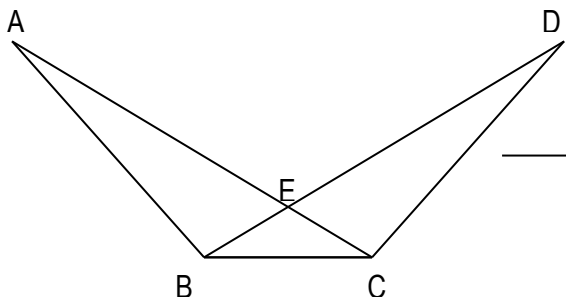


Given: N is the midpoint of \overline{OE} ,
l is parallel to m.

Prove: $\overline{UN} \cong \overline{AN}$

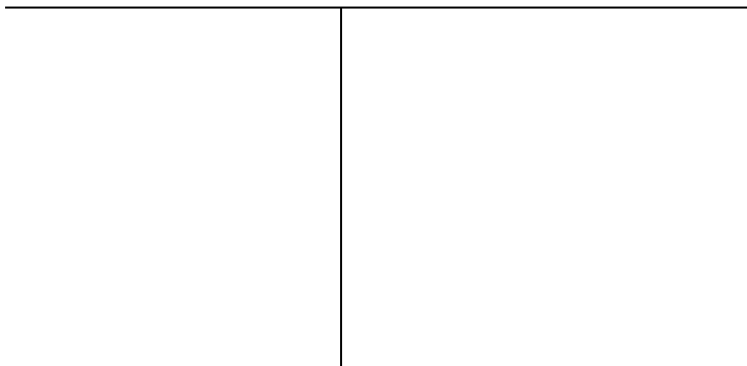


6)

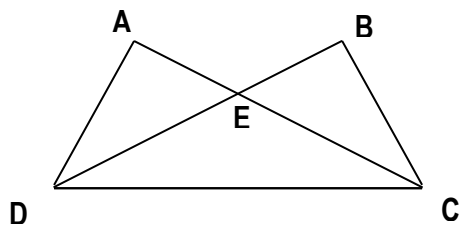


Given: $\angle ABC \cong \angle DCB$; $\angle BAC \cong \angle CDB$

Prove: $\angle BCA \cong \angle CBD$

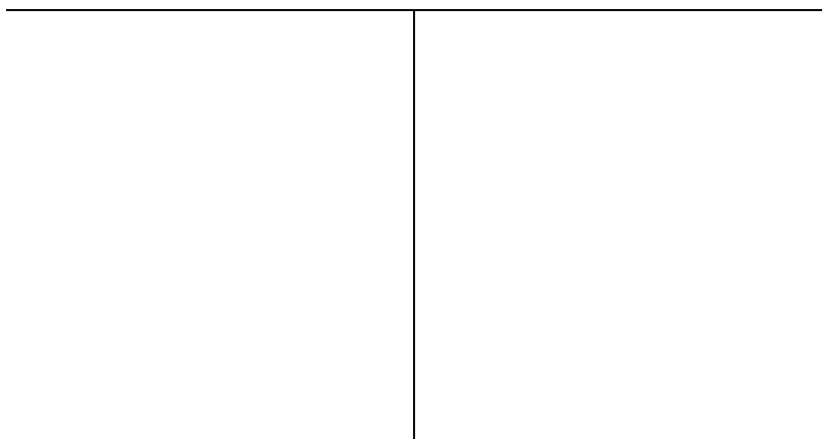


7)

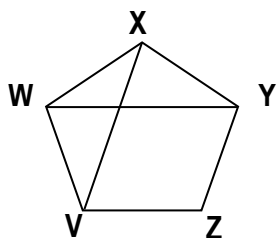


Given: $\angle DAC \cong \angle CBD$; $\angle ACD \cong \angle BDC$

Prove: $\overline{AD} \cong \overline{BC}$

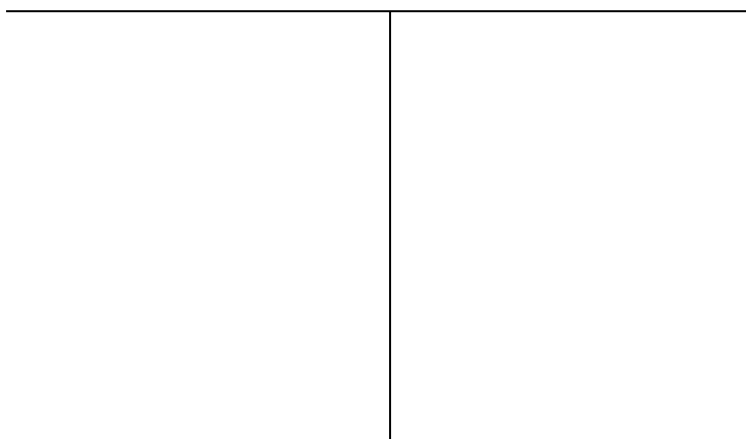


8)



Given: VWXYZ is a regular pentagon

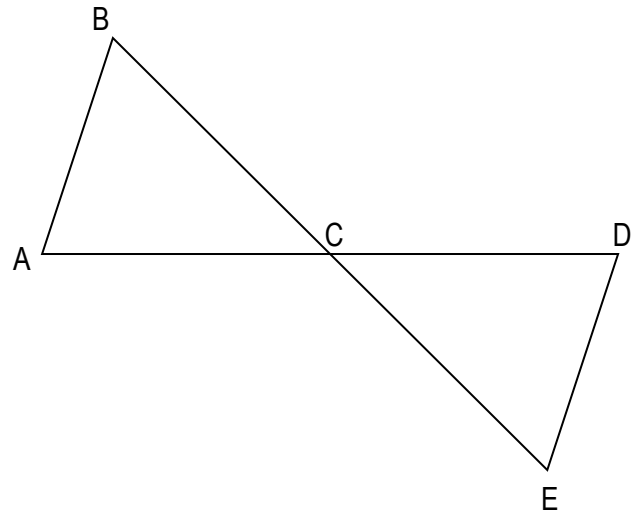
Prove: $\overline{XV} \cong \overline{WY}$



9)

Given: C is the midpoint of \overline{BE}
 $\angle BAC \cong \angle EDC$

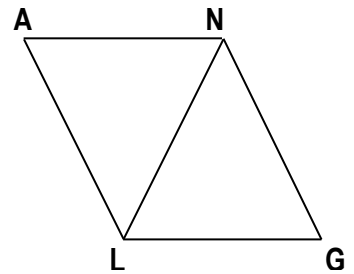
Prove: $\angle ABC \cong \angle DEC$



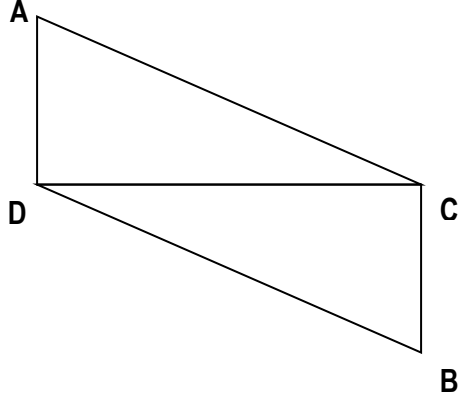
10)

Given: $\overline{AN} \parallel \overline{GL}$
 $\overline{AN} \cong \overline{GL}$

Prove: $\angle NAL \cong \angle LGN$

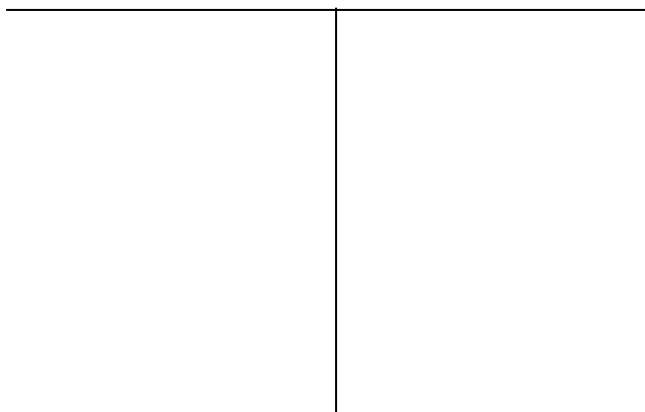


11)

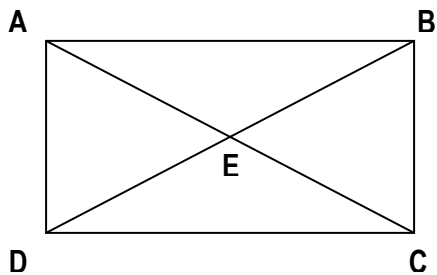


Given: $\overline{AD} \perp \overline{DC}$; $\overline{BC} \perp \overline{CD}$; $\overline{AD} \cong \overline{BC}$

Prove: $\overline{AC} \cong \overline{BD}$



12)



Given: E is the midpoint of \overline{BD} & \overline{AC}

Prove: $\overline{AB} \cong \overline{CD}$

