

What goes in the missing blank of the proof?

Given:  $\overline{AB} \parallel \overline{ED}, \overline{AC} \cong \overline{EC}$

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

$\overline{AB} \parallel \overline{ED}, \overline{AC} \cong \overline{EC}$	Given
$\angle ACB \cong \angle ECD$	Vertical Angles
$\angle A \cong \angle E$	Alternate Interior Angles
$\triangle ABC \cong \triangle EDC$	ASA Congruence
$\overline{AB} \cong \overline{ED}$	CPCTC

Are these triangles congruent? If so, state the congruence postulate.

\*Reflexive Property

HL

~~SSA~~

What is the measure of  $\angle A$ ?

$x + 35 + x + 65 + 90 = 180$   
 $2x + 190 = 180$   
 $-190 \quad -190$   
 $2x = -10$   
 $\frac{2x}{2} = \frac{-10}{2}$   
 $x = -5$

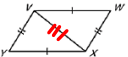
$x + 35$   
 $-5 + 35 = 30^\circ$

What additional information do you need to know to prove these triangles are congruent by AAS?

$m\angle W \cong m\angle H$   
 $\angle UWI \cong \angle JHI$

\*Vertical Angles

What goes in the missing blank of the proof below?

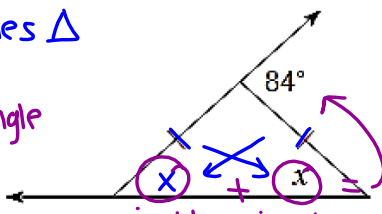
<p>GIVEN: <math>\overline{VW} \cong \overline{XY}</math>, <math>\overline{WX} \cong \overline{YV}</math>                  PROVE: <math>\triangle WXV \cong \triangle YVX</math></p> 	
$\overline{VW} \cong \overline{XY}$	Given
$\overline{WX} \cong \overline{YV}$	Given
$\overline{VX} \cong \overline{VX}$	Reflexive Property
$\triangle WXV \cong \triangle YVX$	SSS Congruence

**N** ANSWER: Reflexive Property

Solve for x.

\*Isosceles  $\Delta$

\*Exterior Angle Theorem



inside + inside = outside

$$x + x = 84$$

$$\frac{2x}{2} = \frac{84}{2}$$

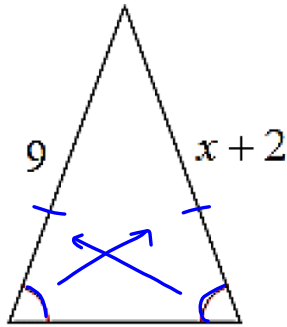
**x = 42**

ANSWER: 42 degrees

Solve for x.

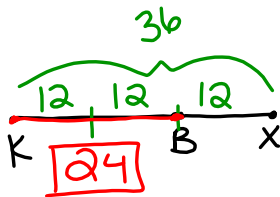
\*Isosceles  $\triangle$

$$\begin{aligned} x+2 &= 9 \\ -2 & \quad -2 \\ \hline x &= 7 \end{aligned}$$

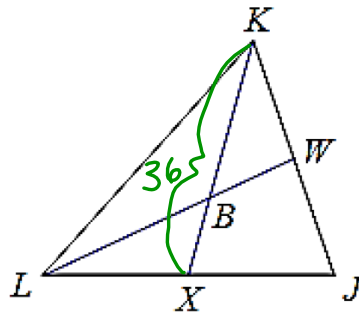


ANSWER: 1

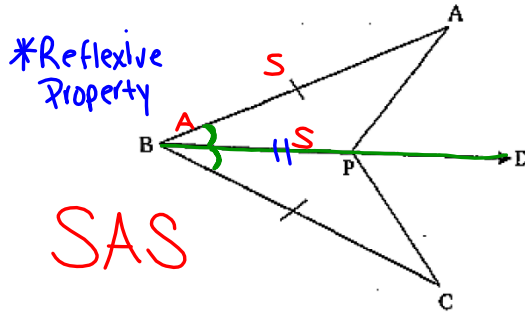
KX and LW are medians.  
Find KB if KX is 36.



$$\frac{36}{3} = 12$$



Given: BD bisects  $\angle ABC$   
 Are the two triangles congruent? If so,  
 state the congruence postulate.



Solve for x.

\* Exterior Angle Theorem

$$5x - 5 + 70 = 9x + 21$$

$$5x + 65 = 9x + 21$$

$$\begin{array}{r} -9x \\ -9x \end{array}$$

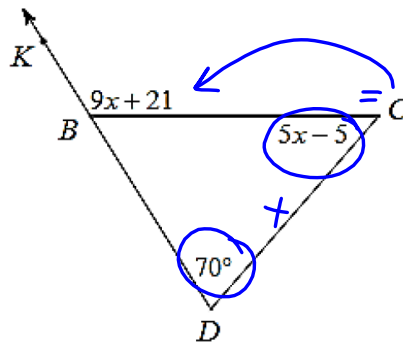
$$-4x + 65 = 21$$

$$\begin{array}{r} -65 \\ -65 \end{array}$$

$$-4x = -44$$

$$\begin{array}{r} -4 \\ -4 \end{array}$$

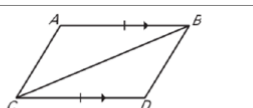
$$x = 11$$



**What goes in the missing blank of the proof below?**

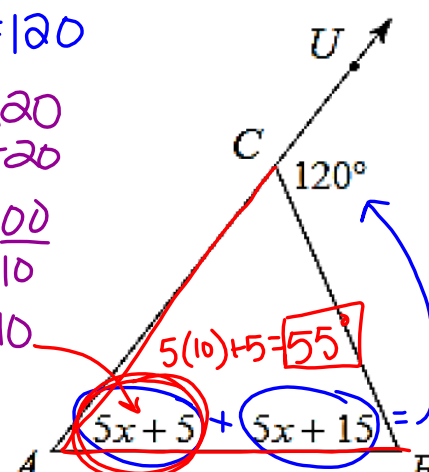
Given:  $\overline{AB} \parallel \overline{DC}, \overline{AB} \cong \overline{DC}$

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



$\overline{AB} \parallel \overline{DC}, \overline{AB} \cong \overline{DC}$	Given
$\angle ABC \cong \angle DCB$	Alt. Interior Angles
$\overline{BC} \cong \overline{BC}$	Reflexive Property
$\rightarrow \Delta ABC \cong \Delta DCB$	SAS Congruence
$\overline{AC} \cong \overline{DB}$	CPCTC

**Find the measure of  $\angle CAB$ .**



Handwritten work:

$$5x + 5 + 5x + 15 = 120$$

$$10x + 20 = 120$$

$$\begin{array}{r} -20 \\ -20 \end{array}$$

$$\frac{10x}{10} = \frac{100}{10}$$

$$x = 10$$

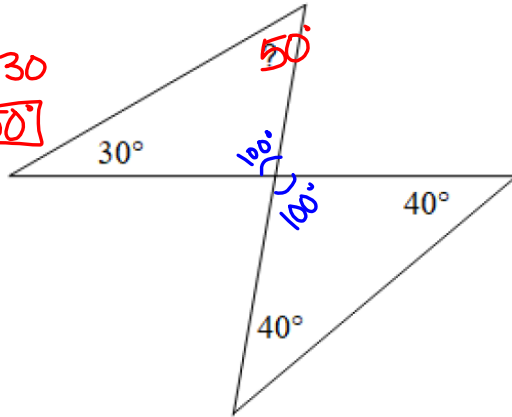
Substituting  $x = 10$  into the angle at B:

$$5(10) + 15 = 55^\circ$$

The angle at A is  $5x + 5 = 5(10) + 5 = 55^\circ$ .

Solve for the missing angle.

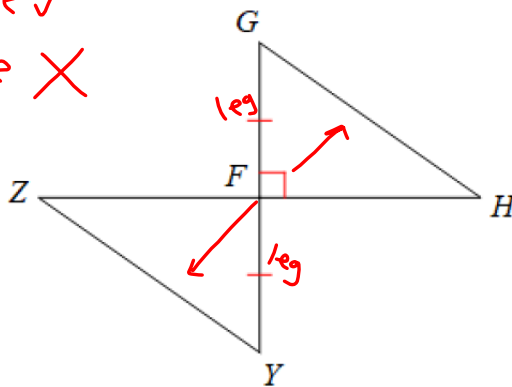
$100 + 30 = 130$   
 $180 - 130 = \boxed{50^\circ}$



$40 + 40 = 80$   
 $180 - 80 = 100$

What additional information do you need to know to prove these triangles are congruent by HL?

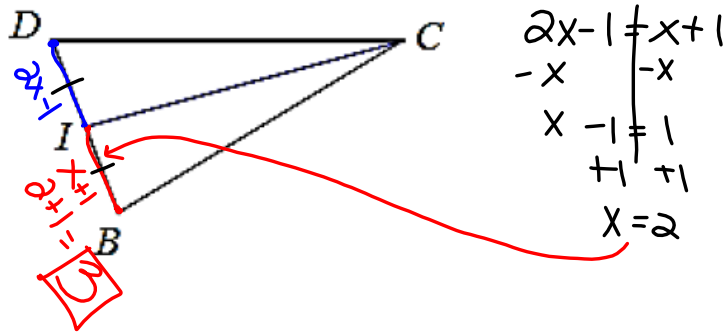
Right Angle  $\checkmark$   
 Hypotenuse  $\times$   
 Leg  $\checkmark$



$\overline{GH} \cong \overline{YZ}$

IC is a median.

Find  $IB$  if  $IB = x + 1$  and  $ID = 2x - 1$

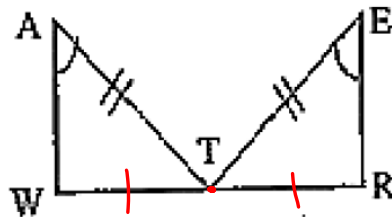


Are the triangles congruent? If so, state the congruence postulate.

- ~~SSS~~
- ~~SAS~~
- ~~ASA~~
- ~~AAS~~
- ~~HL~~
- ~~SSA~~
- ~~SXA~~
- ~~AXA~~

Not Congruent

Given: T is the midpoint of  $\overline{WR}$





$\triangle GEO$  and  $\triangle TRI$  are  
congruent triangles.

GEO  
TRI

$\overline{IT} \cong ? \overline{OG}$

ANSWER:  $\overline{OG}$

$\triangle GEO$  and  $\triangle TRI$  are  
congruent triangles.

$\overline{RI} \cong ? \overline{EO}$

