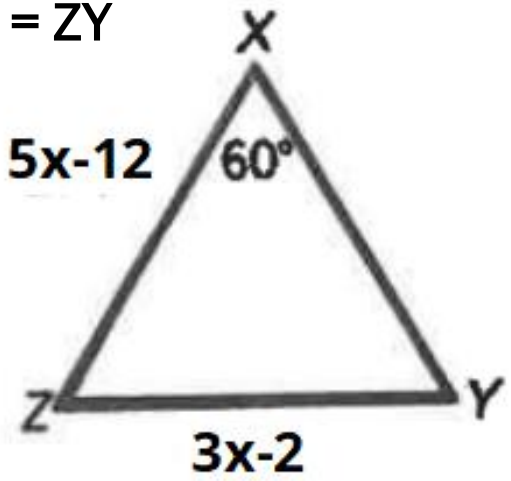
MODULE 5 TRIANGLES & CONGRUENCY TEST REVIEW

GEOMETRY

ZX = ZY



Part A: find the measure of angle Z and angle Y

Part B: Find the value of x

Part C: Find the length of XY.

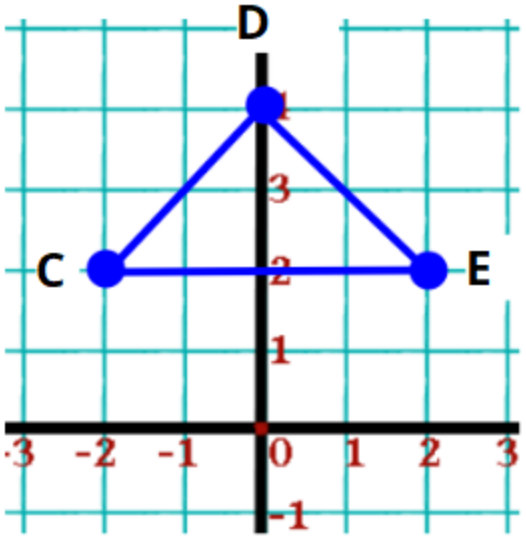
ARCHITECTURE In an A-Frame house, the roof extends to the ground level. If each side of the roof meets the ground at a 62° angle, what will be the measure of the angle where the two sides of the roof meet?

The angle measure will be _____°.

Find the measure of the sides of triangle CDE.

What kind of triangle is this?

If angle C is 25 degrees determine the measures of angles D and E.



$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

In $\triangle PQR$, $PQ = QR$. If $m\angle P = (3x - 120)$ and $m\angle R = (x - 30)$, classify $\triangle PQR$.

Part A: What type of triangle is this?

Part B: What is the value of x?

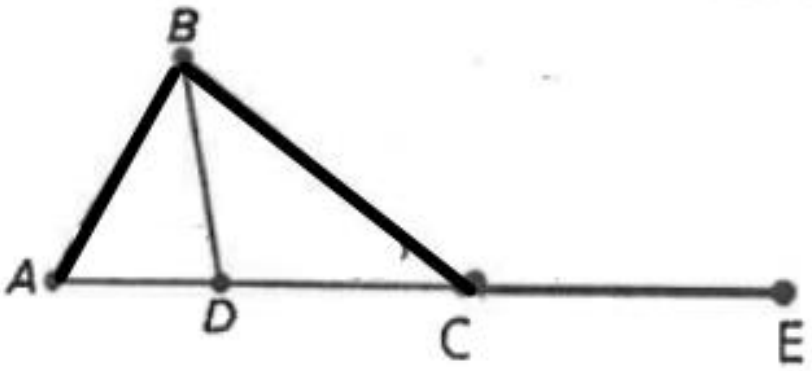
Part C: Determine the angle measures of <Q, <P, and <R.

What is $m\angle CBD$? What is the m<BCE?

<BAD = 40

<BDA = 75

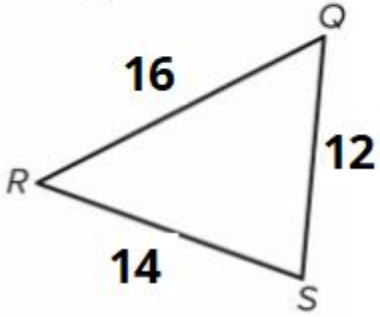
<BCD = 25



$m\angle CBD =$ _____°

m<BCE = _____

If a series of rigid transformations maps $\triangle QRS$ onto $\triangle MPN$, match each side of triangle MPN with its length.



$MN =$ _____

$MP =$ _____

$PN =$ _____

Which additional statements can be used to prove $\triangle ABC \cong \triangle LKM$ using the AAS Theorem, if $\angle B \cong \angle K$? Select all that apply.

A. $\angle A \cong \angle M$

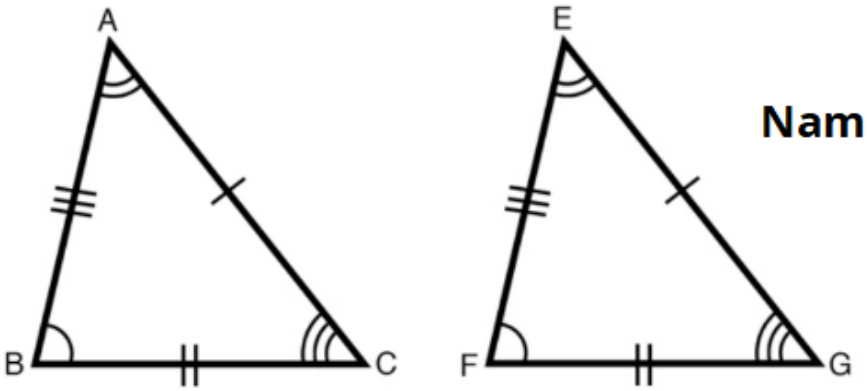
B. $\angle C \cong \angle M$

C. $\overline{AB} \cong \overline{LK}$

D. $\overline{BC} \cong \overline{KM}$

E. $\overline{AC} \cong \overline{LM}$

Congruent Triangles



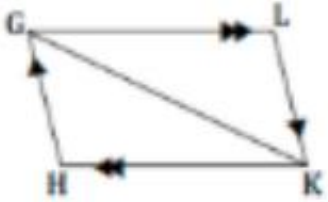
$\Delta ABC \cong \Delta EFG$

Name all the corresponding angles:

Name all the corresponding sides:

In $\triangle ABC$, $m\angle A = 37°$ and $m\angle B = 89°$.
What is $m\angle C$?

Given: $\overline{GH} \parallel \overline{KL}, \overline{GL} \parallel \overline{KH}$
Prove: $\angle H \cong \angle L$



STATEMENTS	REASONS
1. $\overline{GH} \parallel \overline{KL}, \overline{GL} \parallel \overline{KH}$	1.
2.	2.
3.	3. Reflexive Property
4. $\triangle GKH \cong \triangle KGL$	4.
5.	5. CPCTC

$< HGK \cong < LKG$ and $< LGK \cong < HKG$

$\overline{GK} \cong \overline{KG}$

ASA

$< H \cong < L$

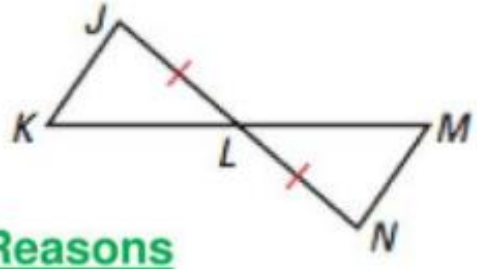
Given

Write a two-column proof that shows $\triangle JKL \cong \triangle NML$.

Given ▶ $\overline{JL} \cong \overline{NL}$

L is the midpoint of $\overline{KM}$.

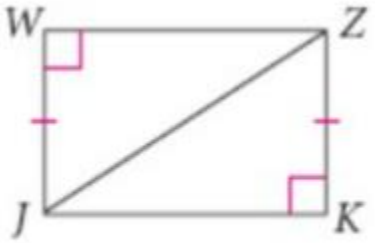
Prove ▶ $\triangle JKL \cong \triangle NML$



STATEMENTS	Reasons
1. $\overline{JL} \cong \overline{NL}$	1.
2.	2. Given
3. $\angle JLK \cong \angle NLM$	3.
4.	4. Definition of Midpoint
5. $\triangle JKL \cong \triangle NML$	5.

Given: $\overline{WJ} \cong \overline{KZ}$, $\angle W$ and $\angle K$ are right angles.

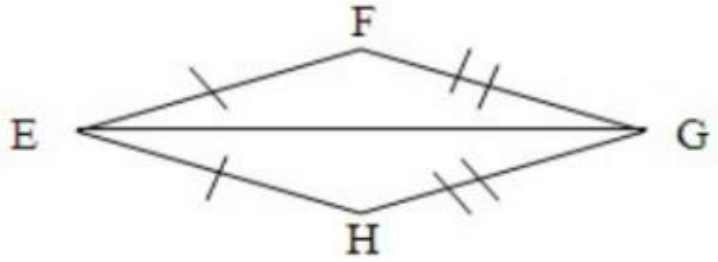
Prove: $\triangle JWZ \cong \triangle ZKJ$



	Statements		Reasons
1		1	Given
2	$\angle W$ and $\angle K$ are right angles.	2	
3		3	Definition of right triangle
4	$\overline{JZ} \cong \overline{JZ}$	4	
5	$\triangle JWZ \cong \triangle ZKJ$	5	

Given: $\overline{EF} \cong \overline{EH}, \overline{FG} \cong \overline{HG}$

Prove: $\Delta EFG \cong \Delta EHG$



Statements	Reasons
1.	1.
2.	2.
3.	3.