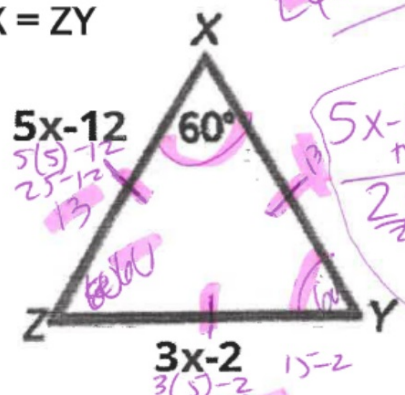
ANSWERS

MODULE 5 TRIANGLES & CONGRUENCY TEST REVIEW

GEOMETRY

ZX = ZY

Equilateral



$5x-12 = 3x-2$

$+12 \quad +12$

$2x = 14$

$x = 7$

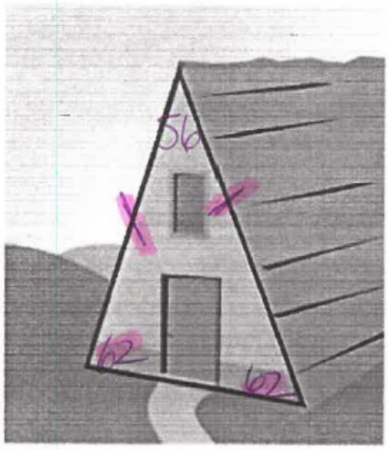
Part A: find the measure of angle Z and angle Y

60 60

Part B: Find the value of x = 5

Part C: Find the length of XY. = 13

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 b the measure of the angle where the two sides of the roof meet?



62+62=

180

-124

56

The angle measure will be 56 °.

Find the measure of the sides of triangle CDE.

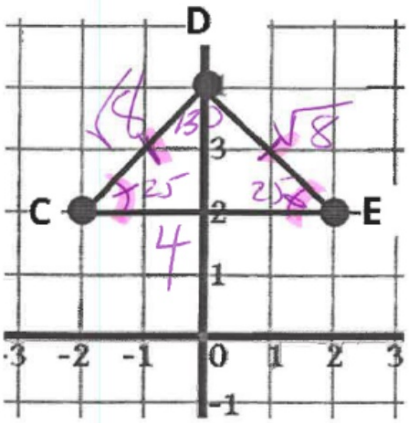
isosceles

What kind of triangle is this?

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

25 + 25 = 50

25 | 130 | 180 − 50



(0, 4) (-2, 2)

x y x y

1 4 2 2

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

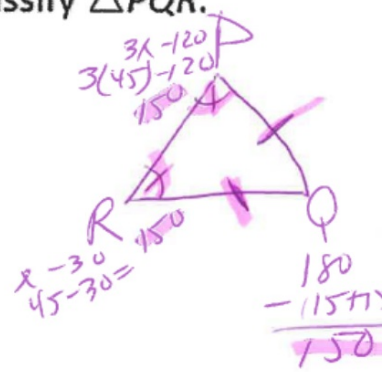
$$\sqrt{(-2-0)^2 + (2-4)^2}$$

$$\sqrt{(-2)^2 + (2)^2}$$

$$\sqrt{4+4}$$

$$\sqrt{8}$$

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? isosceles

Part B: What is the value of x? 45

Part C: Determine the angle measures of <Q, <P, and <R. 150 15 15

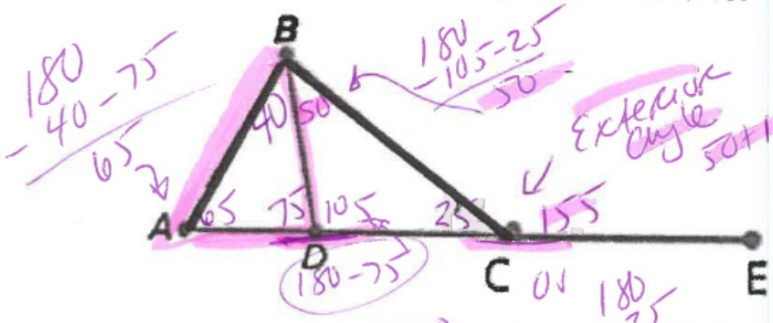
$$x - 30 = 3x - 120$$
$$-x \qquad -x$$
$$-30 = 2x - 120$$
$$+120 \qquad +120$$
$$\frac{90}{2} = \frac{2x}{2}$$
$$45 = x$$

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

<BAD = 40

<BDA = 75

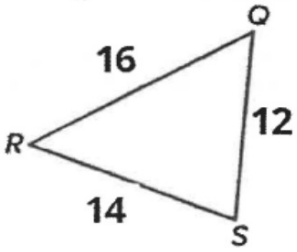
<BCD = 25



$m\angle CBD =$ 50°

m<BCE = 155

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



QS $MN =$ 12

QR $MP =$ 16

RS $PN =$ 14

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. $\angle A \cong \angle M$

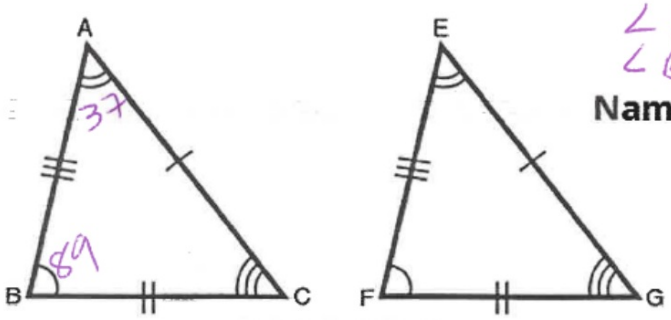
B. $\angle C \cong \angle M$

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:

$\angle A = \angle E$ $\angle C = \angle G$

$\angle B = \angle F$

Name all the corresponding sides:

$\overline{AC} = \overline{EG}$ $\overline{FG} = \overline{BC}$

$\overline{BA} = \overline{FE}$

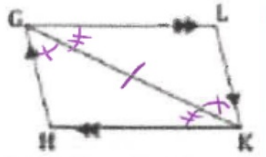
In $\triangle ABC$, $m\angle A = 37°$ and $m\angle B = 89°$.
What is $m\angle C$?

54°

$37 + 89 = 126$

$180 - 126 = 54$

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. Given
2. $\angle HGK = \angle LKG$ $\angle LGK = \angle HKG$	2. Alternate Interior Angles
3. $GK = GK$	3. Reflexive Property
4. $\triangle GKH \cong \triangle KGL$	4. ASA
5. $\angle H = \angle L$	5. CPCTC

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

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

ASA

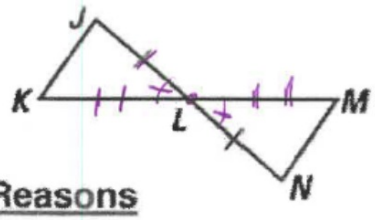
$< H \cong < L$

Given

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

Given ▶ $\overline{JL} \cong \overline{NL}$
L is the midpoint of $\overline{KM}$.

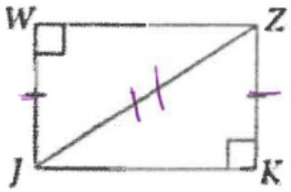
Prove ▶ $\triangle JKL \cong \triangle NML$



STATEMENTS	Reasons
1. $\overline{JL} \cong \overline{NL}$	1. Given
2. L is the midpoint of KM	2. Given
3. $\angle JLK \cong \angle NLM$	3. Vertical Angles
4. KL = ML	4. Definition of Midpoint
5. $\triangle JKL \cong \triangle NML$	5. SAS

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

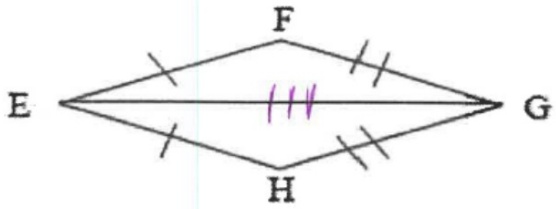
Prove: $\triangle JWZ \cong \triangle ZKJ$



Statements	Reasons
1 WJ = kz	1 Given
2 $\angle W$ and $\angle K$ are right angles.	2 Given
3 $\triangle$ JWZ & $\triangle$ ZKJ are Right Triangles	3 Definition of right triangle
4 $\overline{JZ} \cong \overline{JZ}$	4 Reflexive Property
5 $\triangle JWZ \cong \triangle ZKJ$	5 HL

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

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



Statements	Reasons
1. $EF=EH$ & $FG=HG$	1. Given
2. $EG=EG$	2. Reflexive Prop.
3. $\Delta EFG=\Delta EHG$	3. SSS