

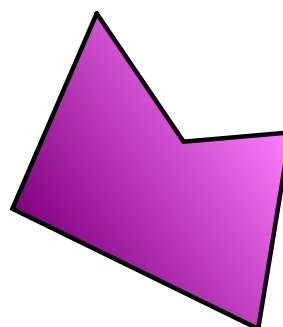
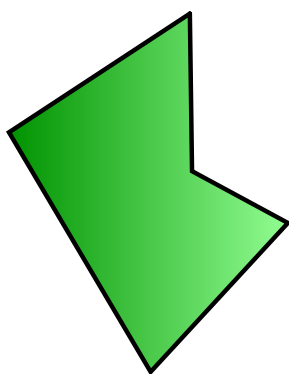
Unit 4: Congruence and triangles

- Students will be able to define "congruent"
- Students will name congruent parts and write a congruence statement
- Students will determine if two figures are congruent.

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Congruent figures:

*Same shape,
Same angles &
Same size*



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$\triangle ABC \cong \triangle PQR$

congruence statement

A B C P Q R

Congruent angles

$\angle A \cong \angle P$

$\angle B \cong \angle Q$

$\angle C \cong \angle R$

Congruent sides

$\overline{AB} \cong \overline{PQ}$

$\overline{BC} \cong \overline{QR}$

$\overline{AC} \cong \overline{PR}$

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Ex. Name the congruent parts and write a congruence statement.

$\angle D \cong \angle S$

$\angle E \cong \angle T$

$\angle F \cong \angle R$

$\triangle DFE \cong \triangle SRT$

D E F R S T

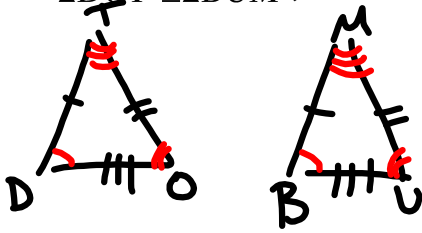
$\overline{DE} \cong \overline{ST}$

$\overline{DF} \cong \overline{RS}$

$\overline{EF} \cong \overline{TR}$

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If $\triangle DQT \cong \triangle BUM$, which angles and sides are congruent?

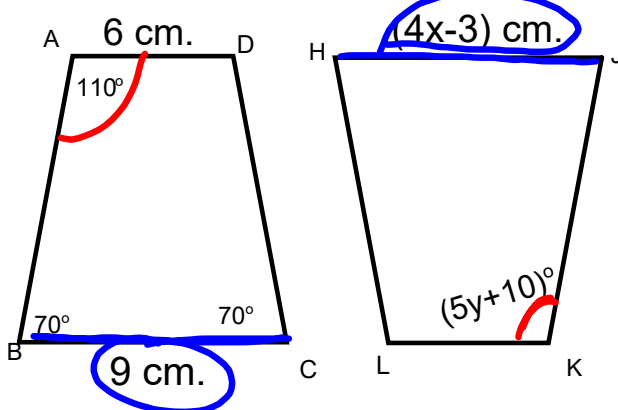


$$\begin{aligned} \overline{DT} &\cong \overline{BM} \\ \overline{DQ} &\cong \overline{BU} \\ \overline{QT} &\cong \overline{UM} \end{aligned}$$

$$\begin{aligned} \angle D &\cong \angle B \\ \angle Q &\cong \angle U \\ \angle T &\cong \angle M \end{aligned}$$

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Ex. In the diagram, $\triangle ABC \cong \triangle KHL$. Find the values of x and y.



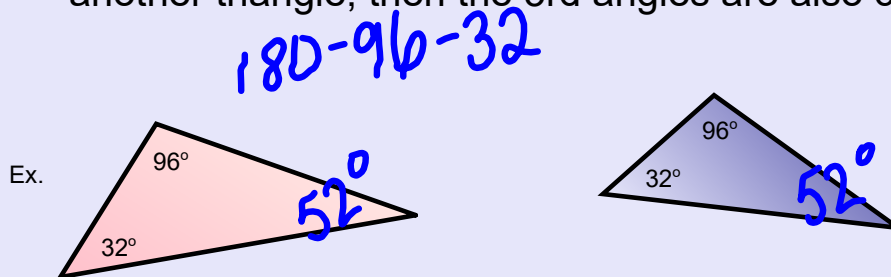
$$\begin{aligned} \angle K &\cong \angle A \\ 5y + 10 &= 110 \\ 5y &= 100 \\ y &= 20 \end{aligned}$$

$$\begin{aligned} 4x - 3 &= 9 \\ 4x &= 12 \\ x &= 3 \end{aligned}$$

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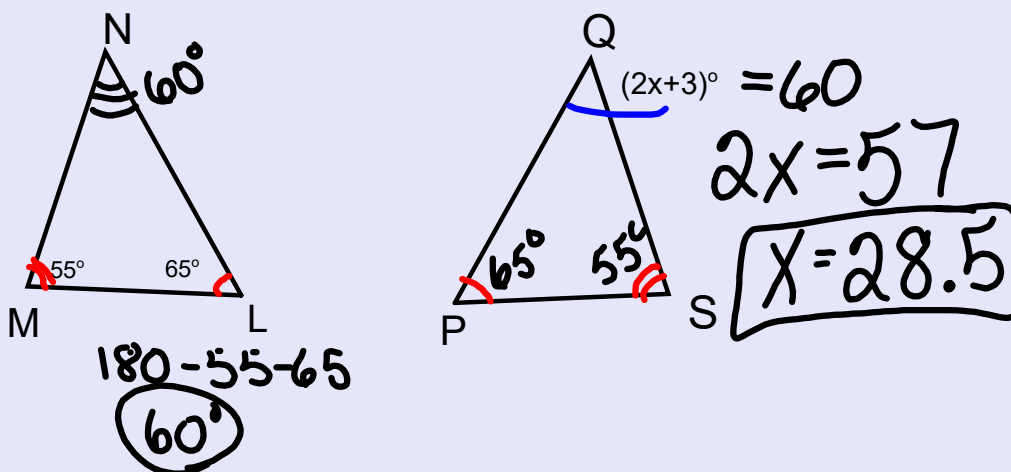
Third Angles Theorem

- If 2 angles of one triangle are congruent to two angles of another triangle, then the 3rd angles are also congruent.



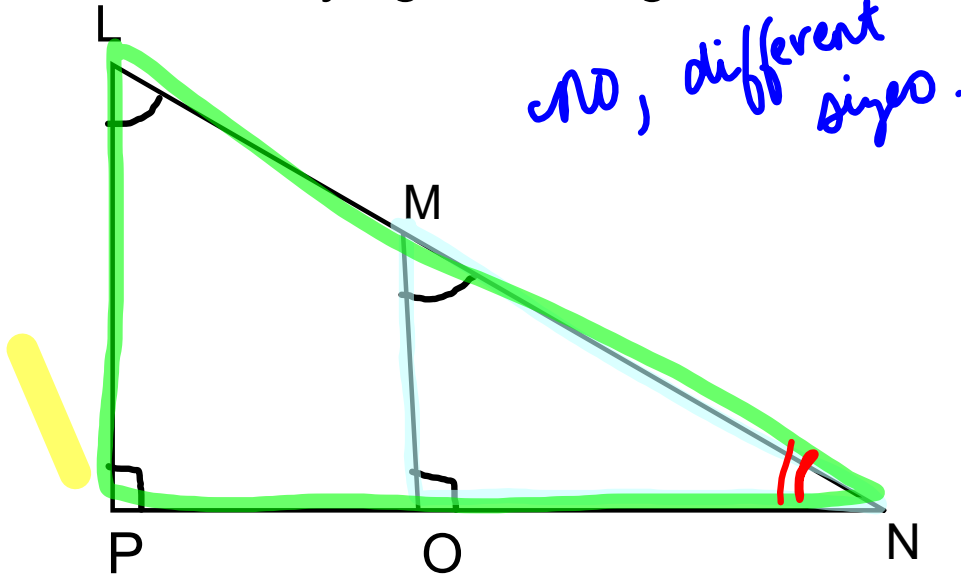
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Use the Third Angles Theorem to help solve for x.



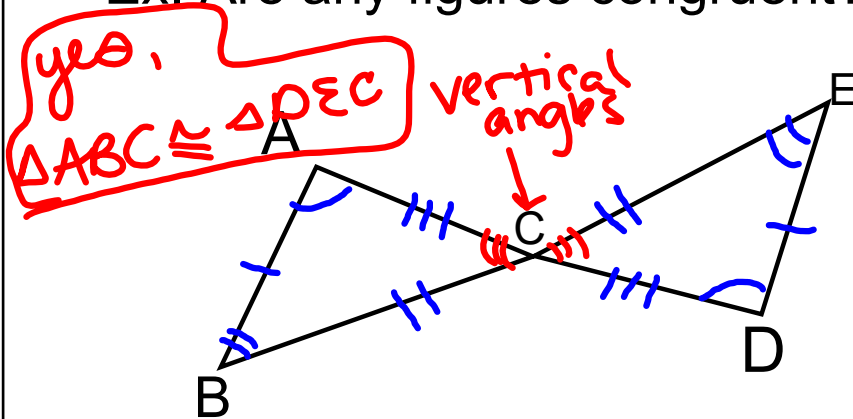
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Ex. Are any figures congruent?



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Ex. Are any figures congruent?



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Projects due Thursday/Friday!!

Categories	Questions to ask yourself.	20 total points (quiz/project column)
Use of technology	Was any technology used? Type of technology?	2 pts.
Accuracy	Is problem set up correctly? Does the problem use the correct trig. function? Is the answer correct?	10 pts.
Originality	Is the problem creative? Did we use a version of the problem in class?	3 pts.
Quality of Presentation	Do you speak clear? Good explanation?	5 pts.

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