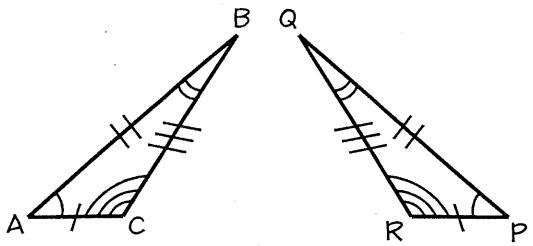
When two figures are congruent, there is a _____ between their angles and sides such that _____ angles are congruent and _____ sides are congruent. For the triangles below, you can write $\Delta ABC \cong \Delta PQR$, which is read "triangle ABC is congruent to triangle PQR." The notation shows the congruence and the correspondence.

Corresponding Angles **Corresponding Sides**

$\angle A \cong \angle P$ $\overline{AB} \cong \overline{PQ}$

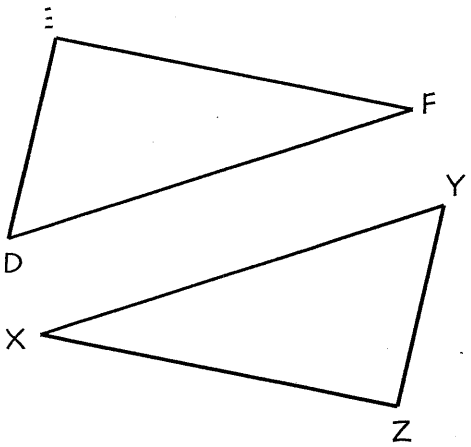
$\angle B \cong \angle Q$ $\overline{BC} \cong \overline{QR}$

$\angle C \cong \angle R$ $\overline{AC} \cong \overline{PR}$



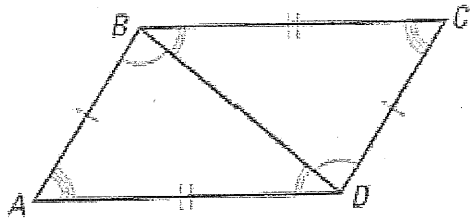
There is more than one way to write a congruence statement, but it is important to list the corresponding angles in the same order. For example, you can also write $\Delta BCA \cong \Delta QRP$. Use the order of the letters in a congruence statement to help you identify congruent parts.

Example: The triangles shown below are congruent as they appear. Write a congruence statement. Identify all pairs of congruent corresponding parts.

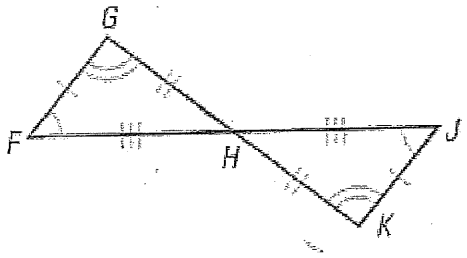


NAMING CONGRUENT FIGURES Identify any figures that can be proved congruent. Explain your reasoning. For those that can be proved congruent, write a congruence statement.

16.



17.



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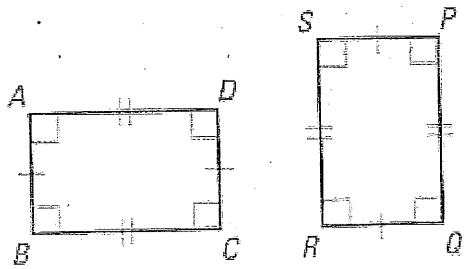

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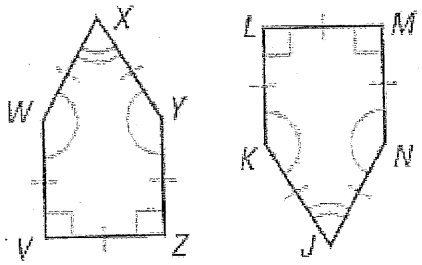

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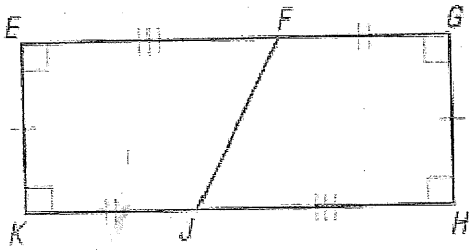
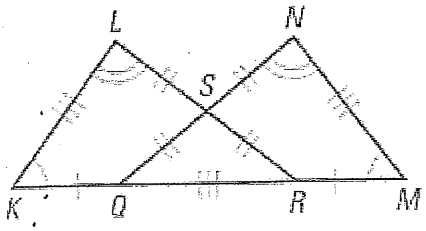


21.



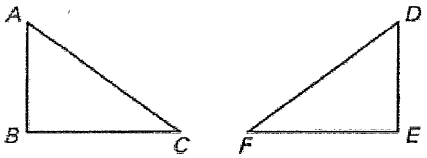
LESSON 4.2

NAME _____ DATE _____

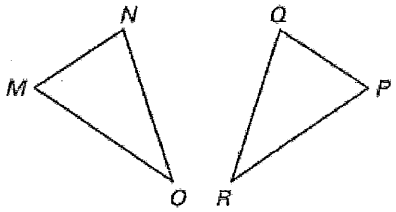
Practice A

For use with pages 202–210

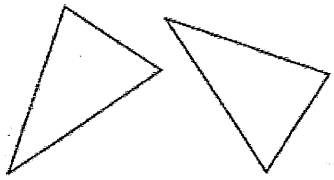
1. Given $\triangle ABC \cong \triangle DEF$, name three pairs of congruent sides.



2. Given $\triangle MNO \cong \triangle PQR$, name three pairs of congruent angles.

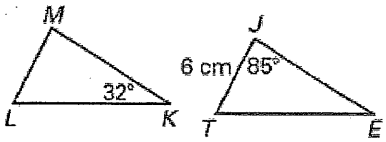


3. Copy the congruent triangles shown at the right. Then label the vertices of your triangles so that $\triangle RUV \cong \triangle TNF$. Identify all pairs of congruent *corresponding angles* and *corresponding sides*.



LESSON 4.2

In the diagram, $\triangle MKL \cong \triangle JET$. Complete the statement.



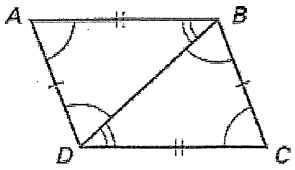
4. $\angle L \cong$ _____
5. $\overline{MK} \cong$ _____
6. $m\angle M =$ _____ °
7. $m\angle T =$ _____ °
8. $ML =$ _____
9. $\triangle ETJ \cong$ _____

Complete this statement.

10. If $\triangle WRD \cong \triangle PLK$, then $\overline{WR} \cong$ _____.
11. If $\triangle BGT \cong \triangle DSN$, then $\angle T \cong$ _____.
12. If $\triangle SVP \cong \triangle MTQ$, then $\overline{PS} \cong$ _____.
13. If $\triangle JCX \cong \triangle MWP$, then $\overline{XC} \cong$ _____.
14. If $\triangle RHK \cong \triangle WVO$, then $\triangle KRH \cong$ _____.
15. If $\triangle PMC \cong \triangle LDX$, then $\angle M \cong$ _____.

Identify any figures that can be proved congruent. Explain your reasoning. For those that can be proved congruent, write a congruence statement.

16.



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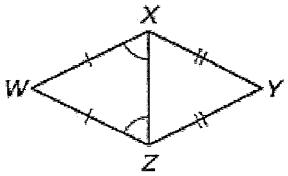

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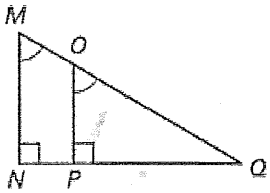

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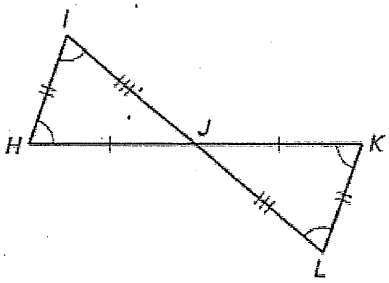


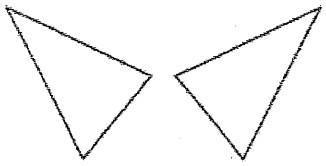
LESSON 4.2

NAME _____ DATE _____

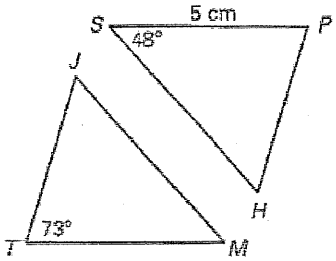
Practice B

For use with pages 202–210

1. Copy the congruent triangles shown at the right. Then label the vertices of your triangles so that $\triangle AMT \cong \triangle CDN$. Identify all pairs of congruent *corresponding angles* and *corresponding sides*.



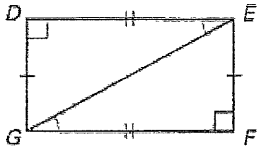
In the diagram, $\triangle TJM \cong \triangle PHS$. Complete the statement.



2. $\angle P \cong$ _____
3. $\overline{JM} \cong$ _____
4. $m\angle M =$ ____ °
5. $m\angle P =$ ____ °
6. $MT =$ _____
7. $\triangle HPS \cong$ _____

Identify any figures that can be proved congruent. Explain your reasoning. For those that can be proved congruent, write a congruence statement.

8.



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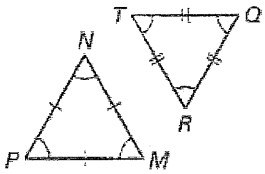

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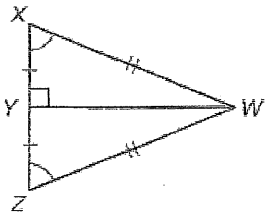
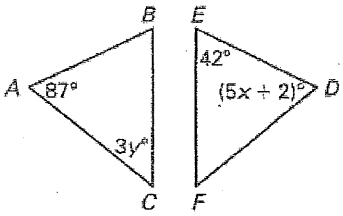
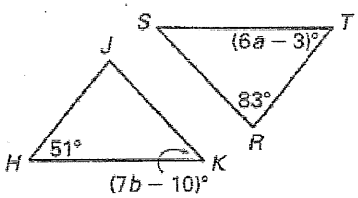


In Exercises 11 and 12, use the given information to find the indicated values.

11. Given $\triangle ABC \cong \triangle DEF$, find the values of x and y.



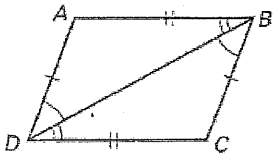
12. Given $\triangle HJK \cong \triangle TRS$, find the values of a and b.



13. Write a proof.

Given: $\angle ABD \cong \angle CDB$, $\angle ADB \cong \angle CBD$, $\overline{AD} \cong \overline{BC}$, $\overline{AB} \cong \overline{DC}$

Prove: $\triangle ABD \cong \triangle CDB$



LESSON 4.2