

4-7

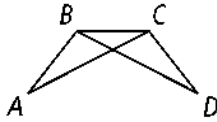
Practice

Form G

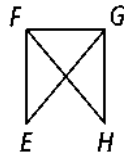
Congruence in Overlapping Triangles

For Exercises 1–6, separate and redraw the indicated triangles. Identify any common angles or sides.

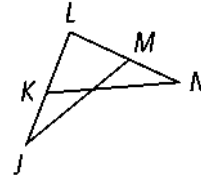
1. $\triangle ABC$ and $\triangle DCB$



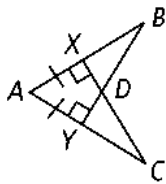
2. $\triangle EFG$ and $\triangle HGF$



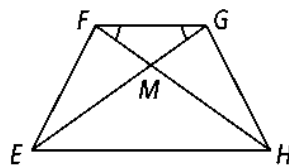
3. $\triangle JML$ and $\triangle NKL$



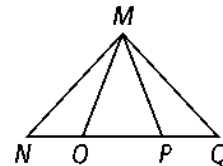
4. $\triangle BYA$ and $\triangle CXA$



5. $\triangle GEH$ and $\triangle FEH$

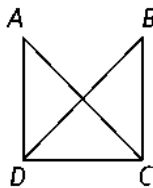


6. $\triangle MPN$ and $\triangle MOQ$

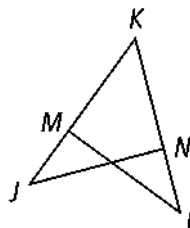


In each diagram in Exercises 7–12 the given triangles are congruent. Identify their common side or angle.

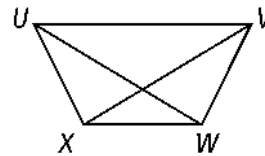
7. $\triangle ADC$ and $\triangle BCD$



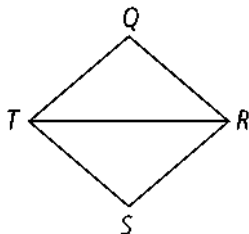
8. $\triangle KNJ$ and $\triangle KML$



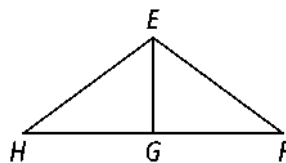
9. $\triangle UXV$ and $\triangle VWU$



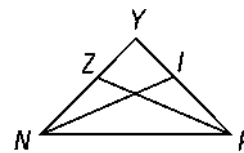
10. $\triangle QTR$ and $\triangle SRT$



11. $\triangle EGH$ and $\triangle EGF$



12. $\triangle YNI$ and $\triangle YPZ$



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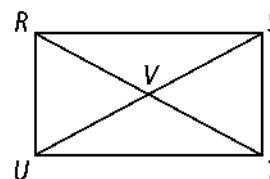
Practice (continued)

Form G

Congruence in Overlapping Triangles

14. Complete the following proof.

Given: $\overline{RU} \cong \overline{TS}$, $\angle RUT$ and $\angle UTS$ are right angles, V is the midpoint of US .



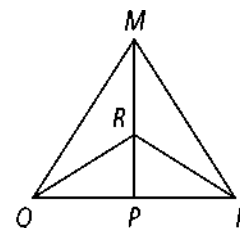
Prove: $\triangle RVU \cong \triangle TVS$

Statements	Reasons
1) $\overline{RU} \cong \overline{TS}$, $\angle RUT$ and $\angle UTS$ are right angles, V is the midpoint of \overline{US} .	1) ?
2) $\overline{UT} \cong \overline{TU}$	2) ?
3) ?	3) All right angles are congruent
4) ?	4) SAS
5) $\angle RUS$ and $\angle SUT$ are complementary angles.	5) ?
6) ?	6) Definition of complementary angles
7) $\angle SUT \cong \angle RTU$	7) ?
8) $\angle RUS \cong \angle STR$	8) ?
9) ?	9) Definition of midpoint
10) $\angle RVU \cong \angle TVS$	10) ?
11) $\triangle RVU \cong \triangle TVS$	11) ?

15. Write a paragraph proof.

Given: P is the midpoint of \overline{QN} , $\overline{MP} \perp \overline{QN}$

Prove: $\triangle MRQ \cong \triangle MRN$



16. In the diagram at the right, $\angle A \cong \angle C$, $\overline{AB} \cong \overline{CE}$, and $\overline{DA} \cong \overline{FC}$. Which two triangles are congruent by SAS? Explain.

