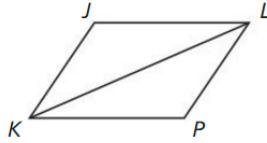


5.1 Solving for Congruent Parts Practice

Name: _____ Date: _____

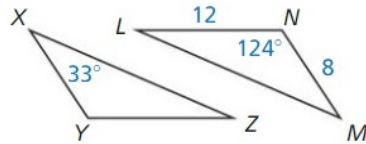
In Exercises 3–8, name the included angle between the pair of sides given.



- 3. \overline{JK} and \overline{KL}
- 4. \overline{PK} and \overline{LK}
- 5. \overline{LP} and \overline{LK}
- 6. \overline{JL} and \overline{JK}
- 7. \overline{KL} and \overline{JL}
- 8. \overline{KP} and \overline{PL}

In Exercises 5–8, $\triangle XYZ \cong \triangle MNL$. Copy and complete the statement.

- 5. $m\angle Y =$ _____
- 6. $m\angle M =$ _____
- 7. $m\angle Z =$ _____
- 8. $XY =$ _____



In Exercises 9–14, Name the Congruent Triangles and Their Congruent Parts

9. \triangle \triangle

10. \triangle \triangle

11. \triangle \triangle

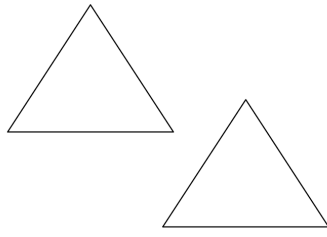
12. \triangle \triangle

13. \triangle \triangle

14. \triangle \triangle

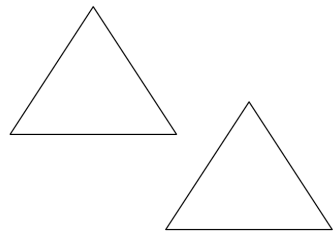
example 1

If $\triangle ABC \cong \triangle DEF$, and $AB = 18$, $BC = 23$, $AC = 9x - 23$, $DF = 7x - 11$, and $DE = 3y - 1$, find the values of x and y .



example 2

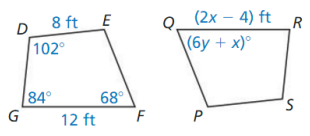
If $\triangle MEL \cong \triangle BAH$, and $m\angle L = 56^\circ$, $m\angle M = 21^\circ$, and $m\angle A = (7y + 5)^\circ$; $ML = 25$, $TS = 14$, $ME = 31$, $BH = 4x - 11$ find the values of x and y .



3. EXAMPLE Using Properties of Congruent Figures

In the diagram, $DEFG \cong SPQR$.

- a. Find the value of x .
- b. Find the value of y .

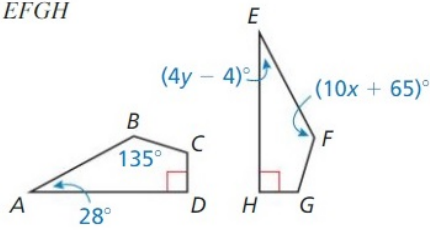


5.1 Solving for Congruent Parts Practice

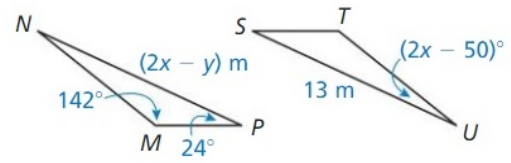
Name: _____ Date: _____

In Exercises 9 and 10, find the values of x and y .
(See Example 2.)

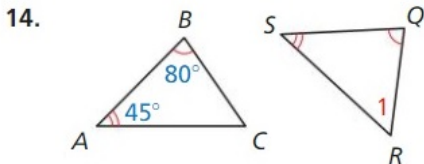
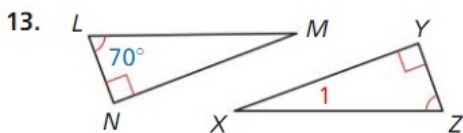
9. $ABCD \cong EFGH$



10. $\triangle MNP \cong \triangle TUS$



In Exercises 13 and 14, find $m\angle 1$. (See Example 4.)



ERROR ANALYSIS In Exercises 17 and 18, describe and correct the error.

17. Given $\triangle QRS \cong \triangle XZY$

$\angle S \cong \angle Z$
 $m\angle S = m\angle Z$
 $m\angle S = 42^\circ$

MATHEMATICAL CONNECTIONS In Exercises 23 and 24, use the given information to write and solve a system of linear equations to find the values of x and y .

23. $\triangle LMN \cong \triangle PQR$, $m\angle L = 40^\circ$, $m\angle M = 90^\circ$,
 $m\angle P = (17x - y)^\circ$, $m\angle R = (2x + 4y)^\circ$

MATHEMATICAL CONNECTIONS In Exercises 23 and 24, use the given information to write and solve a system of linear equations to find the values of x and y .

24. $\triangle STU \cong \triangle XYZ$, $m\angle T = 28^\circ$, $m\angle U = (4x + y)^\circ$,
 $m\angle X = 130^\circ$, $m\angle Y = (8x - 6y)^\circ$