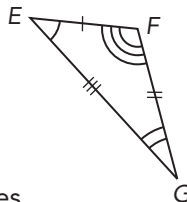
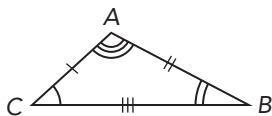


Name congruent figures.

Example

The triangles below are congruent. Write the statement of congruence.

a)



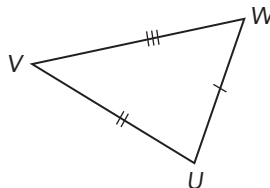
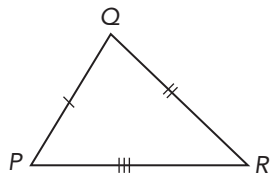
From the arcs on the angles of the triangles,

$\angle A$ corresponds to $\angle F$,

$\angle B$ corresponds to $\angle G$, and $\angle C$ corresponds to $\angle E$.

So, the statement of congruence is $\triangle ABC \cong \triangle FGE$.

b)



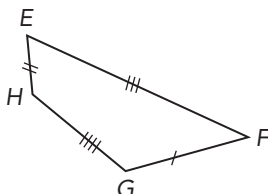
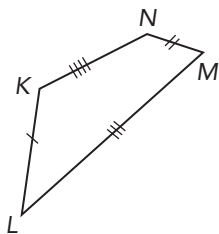
From the tick marks on the sides of the triangles,

Corresponding Sides	Corresponding Angles
\overline{PQ} and \overline{WU}	$\angle P$ and <u>$\angle W$</u>
\overline{QR} and \overline{UV}	$\angle Q$ and <u>$\angle U$</u>
\overline{PR} and \overline{WV}	$\angle R$ and <u>$\angle V$</u>

So, the statement of congruence is $\triangle PQR \cong \triangle WUV$.

Complete.

16. The quadrilaterals below are congruent. Write the statement of congruence.

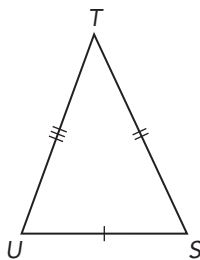
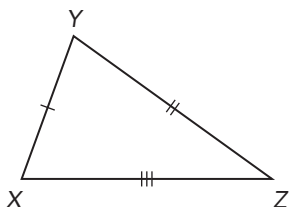


Corresponding Angles
$\angle K \cong \angle$ _____
$\angle L \cong \angle$ _____
$\angle M \cong \angle$ _____
$\angle N \cong \angle$ _____

So, the statement of congruence is $KLMN \cong$ _____.

For each set of figures, write the statement of congruence.

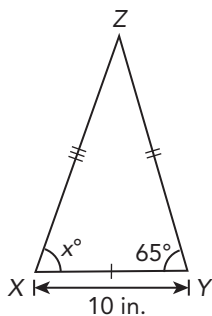
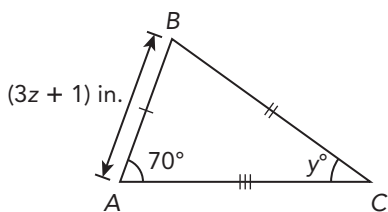
17.



Find unknown measures in congruent figures.

Example

$\triangle ABC$ is congruent to $\triangle XYZ$. Find the values of x , y , and z .



Corresponding Angles	Corresponding Sides
$m\angle A = \underline{m\angle X}$	$AB = \underline{YX}$
$m\angle B = \underline{m\angle Y}$	$BC = \underline{YZ}$
$m\angle C = \underline{m\angle Z}$	$AC = \underline{XZ}$

$x = 70$

$m\angle A = m\angle X$

$y = 180 - 70 - 65$

\angle sum of triangle

$y = 45$

Simplify.

$3z + 1 = 10$

$AB = XY$

$3z + 1 - 1 = 10 - 1$

Subtract 1 from both sides.

$3z = 9$

Simplify.

$\frac{3z}{3} = \frac{9}{3}$

Divide both sides by 3.

$z = 3$

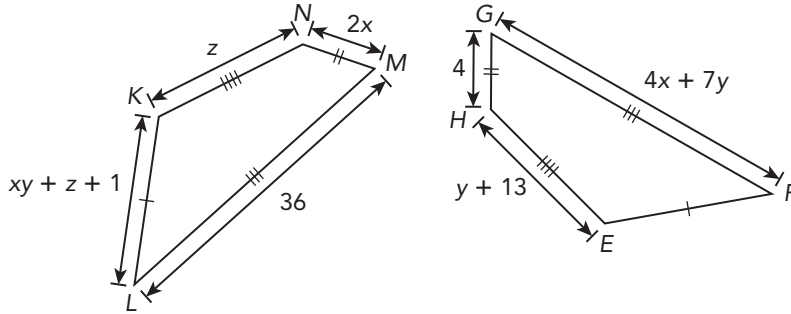
Simplify.

Name: _____

Date: _____

Complete.

18. Quadrilaterals $KLMN$ and $EFGH$ are congruent. Find the values of x , y , and z .
All lengths are in centimetres.



Corresponding Sides
$KL =$
$LM =$
$MN =$
$NK =$

$$2x = \underline{\hspace{2cm}}$$

$$\frac{2x}{\boxed{\hspace{1cm}}} = \frac{\boxed{\hspace{1cm}}}{\boxed{\hspace{1cm}}}$$

$$x = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 4x + 7y$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} \cdot \underline{\hspace{2cm}} + 7y$$

$$\underline{\hspace{2cm}} = \underline{\hspace{2cm}} + 7y$$

$$\underline{\hspace{2cm}} - \underline{\hspace{2cm}} = \underline{\hspace{2cm}} + 7y - \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} = 7y$$

$$\frac{\boxed{\hspace{1cm}}}{\boxed{\hspace{1cm}}} = \frac{\boxed{\hspace{1cm}}}{\boxed{\hspace{1cm}}}$$

$$y = \underline{\hspace{2cm}}$$

$$z = y + 13$$

$$z = \underline{\hspace{2cm}} + 13$$

$$z = \underline{\hspace{2cm}}$$

$$MN = \underline{\hspace{2cm}}$$

Divide both sides by _____.

Simplify.

$$LM = \underline{\hspace{2cm}}$$

Substitute $x =$ _____.

Simplify.

Subtract _____ from both sides.

Simplify.

Divide both sides by _____.

Simplify.

$$KN = \underline{\hspace{2cm}}$$

Substitute $y =$ _____.

Simplify.