LESSON 8-9

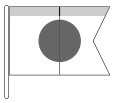
Practice A

Congruent Figures

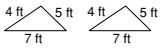
Are there any congruent figures in each picture? If there are, describe them.

1. 

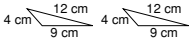
Yes; the spokes on the wheel are congruent.

2. 

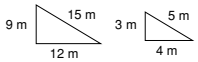
No

3. 

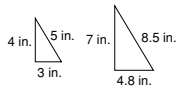
yes

4. 

yes

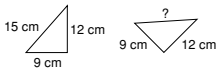
5. 

no

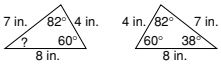
6. 

no

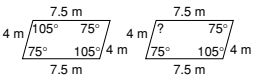
Determine the missing measure in each set of congruent polygons.

7. 

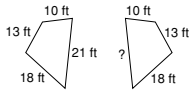
15 cm

8. 

38°

9. 

105°

10. 

21 ft

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LESSON 8-9

Practice B

Congruent Figures

Identify any congruent figures.

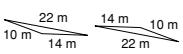
1. 

Yes; the short stripes are congruent and the stars are congruent.

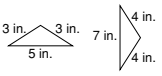
2. 

There are no congruent figures in the picture.

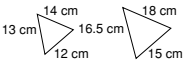
Determine whether the triangles are congruent.

3. 

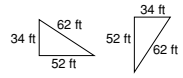
yes

4. 

no

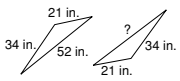
5. 

no

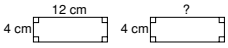
6. 

yes

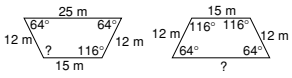
Determine the missing measure or measures in each set of congruent polygons.

7. 

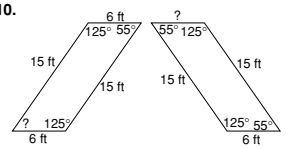
52 in.

8. 

12 cm

9. 

116°; 25 m

10. 

55°; 6 ft

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LESSON 8-9

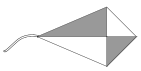
Practice C

Congruent Figures

Identify any congruent figures.

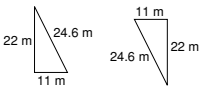
1. 

There are no congruent figures in the picture.

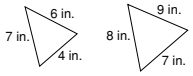
2. 

The two small triangles are congruent, and the two larger triangles are congruent.

Determine whether the triangles are congruent.

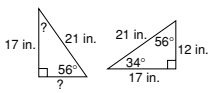
3. 

yes

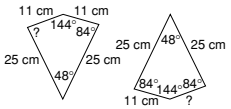
4. 

no

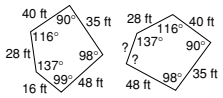
Determine the missing measures in each set of congruent polygons.

5. 

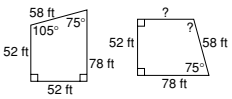
34°; 12 in.

6. 

84°; 11 cm

7. 

99°; 16 ft

8. 

52 ft; 105°

9. Describe how to determine if two hexagons are congruent.

Two hexagons are congruent if corresponding sides and angles are equivalent.

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LESSON 8-9

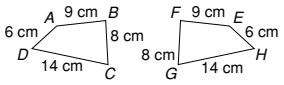
Reteach

Congruent Figures

When two polygons are congruent, the angles and the sides of one polygon are equivalent to the corresponding angles and sides of the other polygon.

Find the corresponding side or angle. *ABCD* ≅ *EFGH*

1. $\overline{AB} \cong$ $\overline{EF}$
2. $\angle DAB \cong$ $\angle HEF$
3. $\overline{GH} \cong$ $\overline{CD}$
4. $\angle GFE \cong$ $\angle CBA$



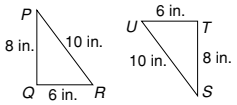
To show that two triangles are congruent, you can show that the three sides of one triangle are congruent to the three sides of the other triangle. This is called the *Side-Side-Side* rule.

$\overline{PQ} \cong \overline{ST}$ since both are 8 inches.

$\overline{QR} \cong \overline{TU}$ since both are 6 inches.

$\overline{PR} \cong \overline{SU}$ since both are 10 inches.

So, $\triangle PQR \cong \triangle STU$.



If you know that two figures are congruent, you can find missing measures in the figures.

- The corresponding angles are in the same position.
- The corresponding sides are in the same position.

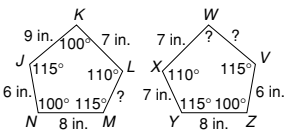
Complete.

5. *JKLMN* ≅ *VWXYZ*

$\angle K \cong \angle W$, so the measure of $\angle W$ is 100°.

6. *JKLMN* ≅ *VWXYZ*

$\overline{LM} \cong \overline{XY}$, so the length of $\overline{LM}$ is 7 in.



7. What is the length of $\overline{VW}$? 9 in.

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