4-3 Skills Practice

Congruent Triangles

Identify the congruent triangles in each figure. *and show corr. sides & angles*

1.

$\triangle JPL \cong \triangle TVS$

sides
$JP \cong TV$
$PL \cong VS$
$JL \cong TS$

Angles
$\angle J \cong \angle T$
$\angle P \cong \angle V$
$\angle L \cong \angle S$

2.

$\triangle WXY \cong \triangle ABC$

Sides
$XY \cong BC$
$YW \cong AC$
$XW \cong AB$

Angles
$\angle A \cong \angle W$
$\angle B \cong \angle X$
$\angle C \cong \angle Y$

3.

$\triangle QRP \cong \triangle SRP$

sides
$PQ \cong PS$
$QR \cong SR$
$PR \cong PR$

Angles
$\angle Q \cong \angle S$
$\angle QRP \cong \angle SRP$
$\angle RPQ \cong \angle RPS$

4.

$\triangle DEF \cong \triangle DGF$

sides
$DE \cong DG$
$EF \cong GF$
$DF \cong DF$

Angles
$\angle E \cong \angle G$
$\angle EDF \cong \angle GDF$
$\angle EFD \cong \angle GFD$

Name the congruent angles and sides for each pair of congruent triangles.

5. $\triangle ABC \cong \triangle FGH$

Angles
$\angle A \cong \angle F$
$\angle B \cong \angle G$
$\angle C \cong \angle H$

Sides
$AB \cong FG$
$BC \cong GH$
$AC \cong FH$

6. $\triangle PQR \cong \triangle STU$

Angles
$\angle P \cong \angle S$
$\angle Q \cong \angle T$
$\angle R \cong \angle U$

Sides
$PQ \cong ST$
$QR \cong TU$
$PR \cong SU$

Verify that each of the following transformations preserves congruence, and name the congruence transformation.

7. $\triangle ABC \cong \triangle A'B'C'$

$AC = 4$
$A'C' = 4$
$AC \cong A'C'$

$2^2 + 2^2 = BC^2$
$\sqrt{8} = BC$
$2^2 + 2^2 = B'C'^2$
$\sqrt{8} = B'C'$
$BC \cong B'C'$

Find all distances

$2^2 + 2^2 = AB^2$
$4 + 4 = AB^2$
$\sqrt{8} = AB$

$2^2 + 2^2 = A'B'^2$
$4 + 4 = A'B'^2$
$\sqrt{8} = A'B'$

$AB \cong A'B'$

8. $\triangle DEF \cong \triangle D'E'F'$

$DF = 3$
$D'F' = 3$
$DF \cong D'F'$

$DE = 4$
$D'E' = 4$
$DE \cong D'E'$

$3^2 + 4^2 = EF^2$
$9 + 16 = EF^2$
$\sqrt{25} = \sqrt{EF^2}$
$5 = EF$

$3^2 + 4^2 = E'F'^2$
$5 = E'F'$