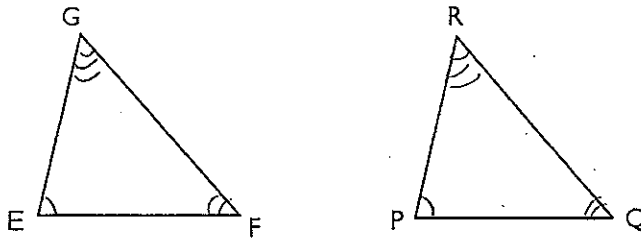# Geometry - Defining Congruent Triangles

$\angle E$ and $\angle P$ are called corresponding angles

$\overline{EG}$ and $\overline{PR}$ are called corresponding sides

Mark congruent parts 1st

$$\triangle EFG \cong \triangle PQR$$

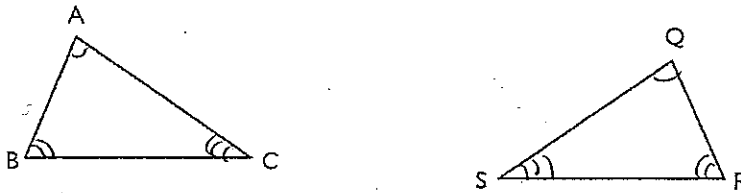$\angle E \cong \angle P$ $\overline{EF} \cong \overline{PQ}$

$\angle F \cong \angle Q$ $\overline{FG} \cong \overline{QR}$

$\angle G \cong \angle R$ $\overline{EG} \cong \overline{PR}$

The two triangles shown are congruent. Name the
a) corresponding angles and $\angle A \cong \angle Q, \angle B \cong \angle R, \angle C \cong \angle S$
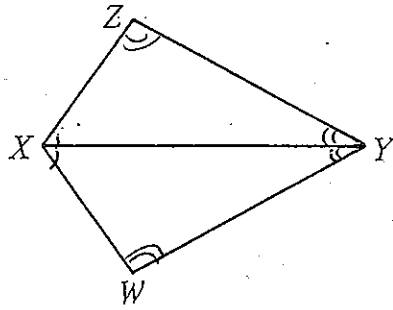b) corresponding sides. $\overline{AB} \cong \overline{}$

This is easier if you mark congruent sides and angles with ticks and arcs first.

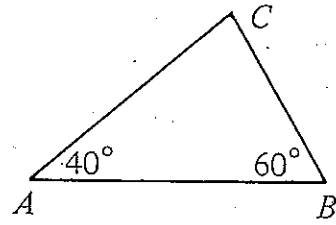Also write triangle congruence 1st ie $\triangle ABC \cong \triangle QRS$
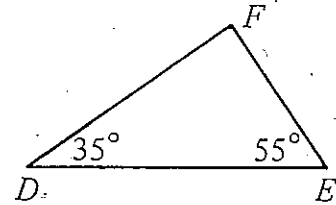
Classroom Practice

1. Name the six parts of $\triangle XYZ$.

(3 angles) $\angle ZXY \cong \angle WXY$, etc.

(3 sides) $\overline{ZX} \cong \overline{WX}$, etc...

2. Name the six parts of $\triangle XYW$.

(handwritten top right) mark congruent sides and angles with ticks and arcs first.

3. Kim drew a triangle that is congruent to $\triangle ABC$. Is Kim's triangle acute, right, or obtuse?
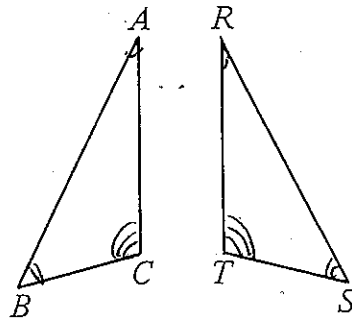
4. Erin drew a triangle that is congruent to $\triangle DEF$. Is Erin's triangle acute, right, or obtuse?

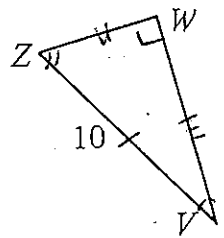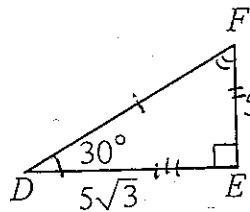**7.** *Given:* $\triangle ABC \cong \triangle RST$.

$\angle R$ corresponds to __?__ $\angle A$

$\angle T$ corresponds to __?__ $\angle C$

$\angle S$ corresponds to __?__ $\angle B$

$\overline{RS}$ corresponds to __?__.

$\overline{RT}$ corresponds to __?__.

$\overline{TS}$ corresponds to __?__.

8. *Given:* $\triangle DEF \cong \triangle VWZ$.
State the angle measures and the segment lengths.

$\angle W =$ __? 90°__ $\angle V =$ __? 30°__ $\angle Z =$ __? 60°__

$DF =$ __? 10__ $ZW =$ __? 5__ $WV =$ __? $5\sqrt{3}$__

9. *Given:* $\triangle ABC \cong \triangle RST$.
Complete each statement.

a. $\triangle ACB \cong \triangle$ __? RST__ **b.** $\triangle RST \cong \triangle$ __?__

c. $\triangle BAC \cong \triangle$ __?__ **d.** $\triangle RTS \cong \triangle$ __?__

e. $\triangle CAB \cong \triangle$ __?__ **f.** $\triangle TSR \cong \triangle$ __?__

g. $\triangle CBA \cong \triangle$ __?__ **h.** $\triangle STR \cong \triangle$ __?__