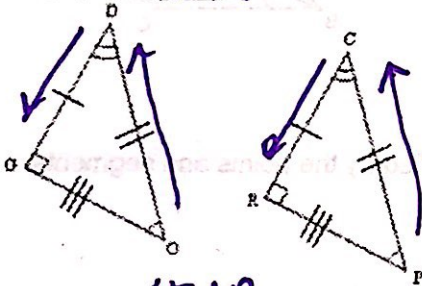


# ORDER MATTERS

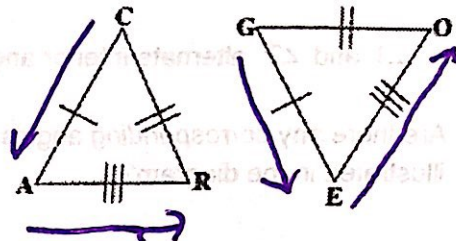
Day 5: CPCTC

I. Name the congruent triangles.

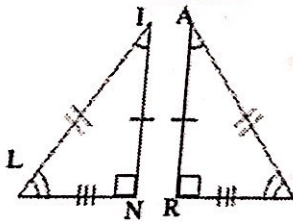
1.  $\triangle ODG \cong \triangle PCR$



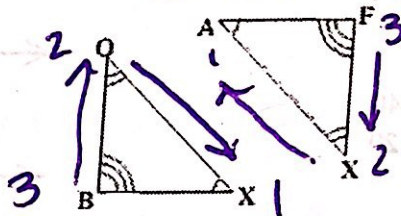
2.  $\triangle CAR \cong \triangle GEO$



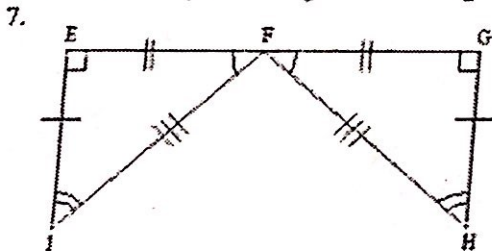
3.  $\triangle LIN \cong \triangle EAR$



4.  $\triangle BOX \cong \triangle FXA$



II. Name the congruent triangle and the congruent parts.



$\triangle FEH \cong \triangle FGH$

$\angle FEH \cong \angle FGH$

$\angle E \cong \angle G$

$\angle H \cong \angle H$

$\overline{FG} \cong \overline{FE}$

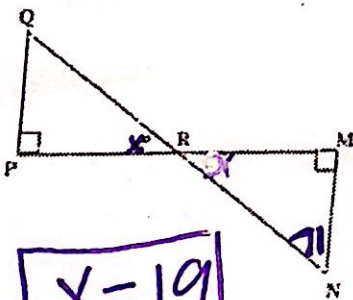
$\overline{GH} \cong \overline{EH}$

$\overline{FH} \cong \overline{FH}$

Use the congruency statement to fill in the corresponding congruent parts.

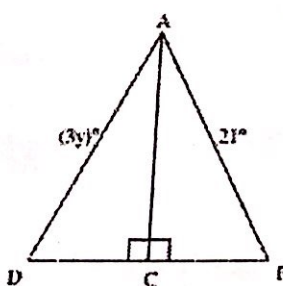
8.  $\triangle LAP \cong \triangle HOT$   $\angle APL \cong \angle OTH$   $\overline{LP} \cong \overline{HT}$   $\angle PAL \cong \angle TOH$   
 $\angle PLA \cong \angle THO$   $\overline{AP} \cong \overline{OT}$   $\overline{AL} \cong \overline{OH}$

9.  $\triangle PQR \cong \triangle MNR$ . Find x.



$x = 19$

10.  $\triangle ABC \cong \triangle ADC$  Find y.



$\overline{AD} \cong \overline{AB}$

$3y = 21$   
 $y = 7$

III.  $\Delta PQR \cong \Delta ABC$ . Find the values of  $x$  and  $y$ .

1.  $m\angle R = 5x + 70$ ,  $m\angle C = 24x - 25$ ,  $QR = 4y + 2$ ,  $BC = x + y$

$5x + 70 = 24x - 25$   
 $95 = 19x$   **$x = 5$**

$4y + 2 = 5 + y$   
 $3y = 3$   **$y = 1$**

~~$PQ = 5x - 31$ ,  $QR = -3y - 1$ ,  $BC = x + 1$ ,  $AB = 9 - y$~~

~~$5x - 31 = x + 1$   
 $4x = 32$   
 $x = 8$~~

~~$9 - y = -3y - 1$   
 $2y = -10$   
 $y = -5$~~

**SKIP**

4.  $\Delta XYZ \cong \Delta MNO$ ,  $m\angle X = x + 10$ ,  $m\angle M = y + 20$ ,  $m\angle Y = 3x$ , and  $m\angle N = x + 3y$ . Find  $m\angle X$  and  $m\angle Y$ .

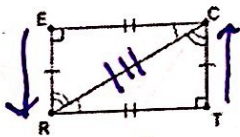
**$m\angle X = 40$**   
 **$m\angle Y = 90$**

$x + 10 = y + 20$   
 $x = y + 10$   **$x = 30$**

$3x = x + 3y$   
 $3(y + 10) = y + 10 + 3y$   **$y = 20$**   
 $3y + 30 = 4y + 10$

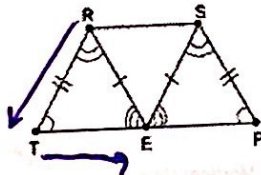
IV. Indicate which triangles are congruent. Be sure to have the correspondence of the letters correct.

a.  $\Delta ERC \cong \Delta TCR$   
 Why is  $\overline{RC} \cong \overline{RC}$ ?

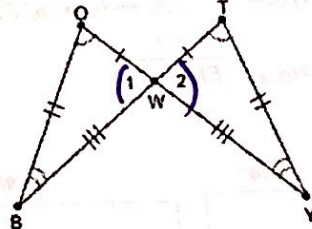


Same line

b. E is the midpoint of  $\overline{TP}$   
 $\Delta SPE \cong \Delta RTE$



c.  $\Delta BOW \cong \Delta TOW$   
 Why is  $\angle 1 \cong \angle 2$ ? vertical



V. Solve.

1. Given:  $\Delta NEW \cong \Delta CAR$

$EN = 11$   
 $AR = 2x - 4y$   
 $NW = x + y$   
 $CA = 4x + y$   
 $EW = 10$

$4x + y = 11$        $2x - 4y = 10$

**$y = 11 - 4x$**

$2x - 4(11 - 4x) = 10$

$2x - 44 + 16x = 10$

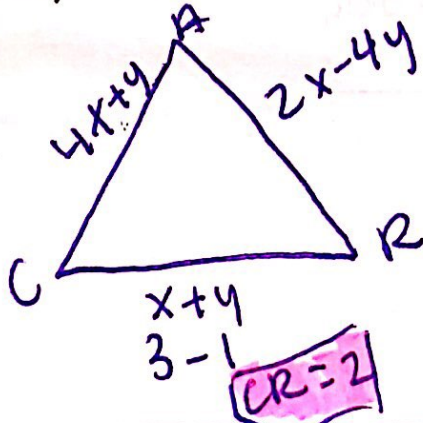
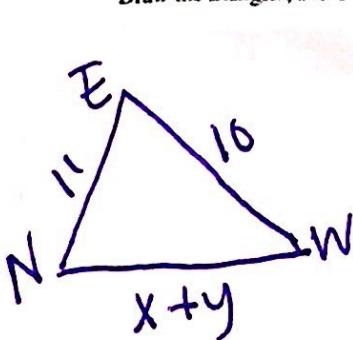
$18x - 44 = 10$

$18x = 54$

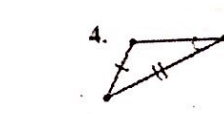
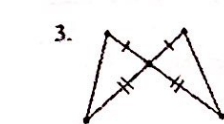
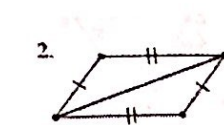
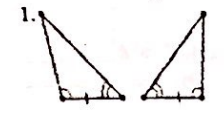
**$x = 3$**   
**Systems!**

$y = 11 - 4(3)$   
 $y = 11 - 12$   
 **$y = -1$**

Draw the triangles, solve for  $x$  and  $y$ , and find  $CR$ .



I. If the triangles can be not enough informati



II. Determin  
 • If so, comple  
 • If not, write

