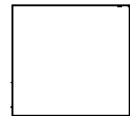


Name: _____

Unit 4: Congruent Triangles

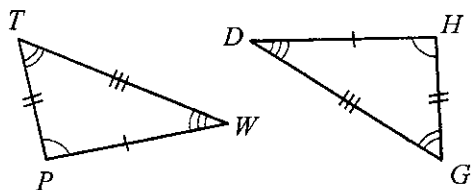


Date: _____ Bell: _____

Homework 4: Congruent Triangles

** This is a 2-page document! **

1. Write three valid congruency statements given the triangles below.



- a) $\triangle TPW \cong \triangle DHG$
 b) $\triangle WPT \cong \triangle DHG$
 c) $\triangle TWP \cong \triangle GDH$

Directions: Given the congruency statement, list all congruent angles and sides.

2. $\triangle ABE \cong \triangle MNP$

Angles	Sides
$\angle A \cong \angle M$	$\overline{AB} \cong \overline{MN}$
$\angle B \cong \angle N$	$\overline{BE} \cong \overline{NP}$
$\angle E \cong \angle P$	$\overline{AE} \cong \overline{MP}$

Write another valid congruency statement:

$\triangle BAE \cong \triangle NMP$

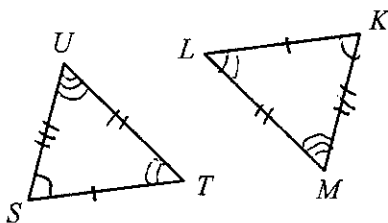
3. $\triangle QRY \cong \triangle JLS$

Angles	Sides
$\angle Q \cong \angle J$	$\overline{QR} \cong \overline{JL}$
$\angle R \cong \angle L$	$\overline{RY} \cong \overline{LS}$
$\angle Y \cong \angle S$	$\overline{QY} \cong \overline{JS}$

Write another valid congruency statement:

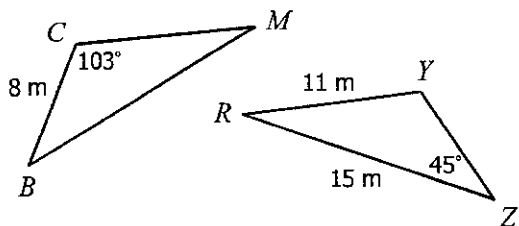
$\triangle QYR \cong \triangle JSL$

4. Given $\triangle STU \cong \triangle KLM$, complete each of the following statements.



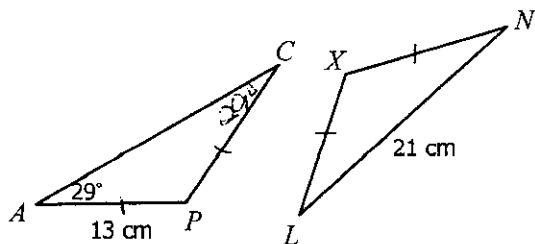
- a) $\overline{TU} \cong \overline{LM}$ d) $\angle M \cong \angle U$ g) $\triangle UST \cong \triangle MKL$
 b) $\overline{KM} \cong \overline{SU}$ e) $\angle T \cong \angle L$ h) $\triangle TUS \cong \triangle LMK$
 c) $\overline{LK} \cong \overline{ST}$ f) $\angle UST \cong \angle LKM$

5. Given $\triangle BCM \cong \triangle ZYR$, find each missing measure.



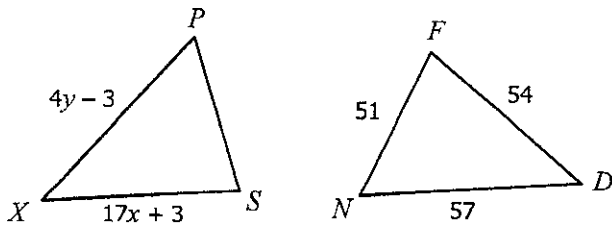
- a) $CM = 11 \text{ m}$ d) $m\angle B = 45^\circ$
 b) $BM = 15 \text{ m}$ e) $m\angle M = 32^\circ$
 c) $YZ = 8 \text{ m}$ f) $m\angle Y = 103^\circ$

6. Given $\triangle ACP \cong \triangle LNX$, find each missing measure. (\times ISOSCELES!!)



- a) $XL = 13 \text{ cm}$ d) $m\angle L = 29^\circ$
 b) $AC = 21 \text{ cm}$ e) $m\angle C = 29^\circ$
 c) $PC = 13 \text{ cm}$ f) $m\angle X = 122^\circ$

7. Given $\triangle XPS \cong \triangle DNF$, find the values of x and y .



$$17x + 3 = 54$$

$$17x = 51$$

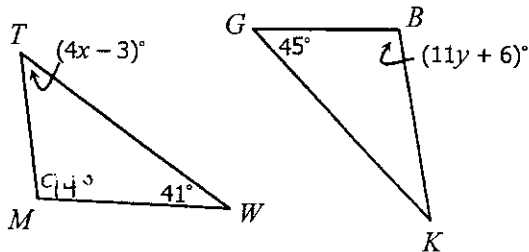
$$\boxed{x = 3}$$

$$4y - 3 = 57$$

$$4y = 60$$

$$\boxed{y = 15}$$

8. Given $\triangle MTW \cong \triangle BGK$, find the values of x and y .



$$4x - 3 = 45$$

$$4x = 48$$

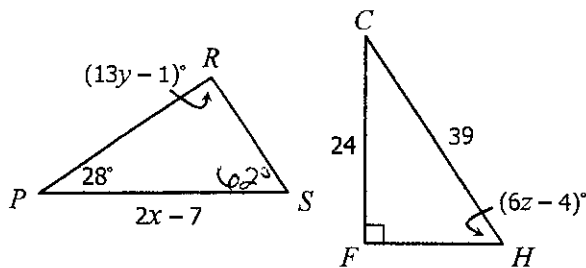
$$\boxed{x = 12}$$

$$11y + 6 = 94$$

$$11y = 88$$

$$\boxed{y = 8}$$

9. Given $\triangle PRS \cong \triangle CFH$, find the values of x , y , and z .



$$2x - 7 = 39$$

$$2x = 46$$

$$\boxed{x = 23}$$

$$13y - 1 = 90$$

$$13y = 91$$

$$\boxed{y = 7}$$

$$6z - 4 = 62$$

$$6z = 66$$

$$\boxed{z = 11}$$

10. If $\triangle ABC \cong \triangle DEF$, $AB = 8$, $BC = 19$, $AC = 14$, $EF = 4x - 1$, and $DE = y - 6$, find the values of x and y .

$$4x - 1 = 19$$

$$4x = 20$$

$$\boxed{x = 5}$$

$$y - 6 = 8$$

$$\boxed{y = 14}$$

11. If $\triangle ZMK \cong \triangle APY$, $m\angle M = 112^\circ$, $m\angle Y = 41^\circ$, $m\angle K = (13x - 37)^\circ$, and $m\angle A = (2y + 7)^\circ$, find the values of x and y .

$$13x - 37 = 41$$

$$13x = 78$$

$$\boxed{x = 6}$$

$$2y + 7 = 112$$

$$2y = 105$$

$$\boxed{y = 52.5}$$

12. If $\triangle BTS \cong \triangle GHD$, $BS = 25$, $TS = 14$, $BT = 31$, $GD = 4x - 11$, $m\angle S = 56^\circ$, $m\angle B = 21^\circ$, and $m\angle H = (7y + 5)^\circ$, find the values of x and y .

$$4x - 11 = 25$$

$$4x = 36$$

$$\boxed{x = 9}$$

$$7y + 5 = 56$$

$$7y = 51$$

$$\boxed{y = 7.2857}$$