## CPCTC and Naming Congruent Triangles

I. Draw and label a diagram. Then solve for the variable and the missing measure or length.

1. If $\triangle B A T \cong \triangle D O G$, and $m \angle B=14, m \angle G=29$, and $m \angle O=10 x+7$. Find the value of x and $m \angle O$.

$14+24+16 x+7=180$

2. If $\triangle C O W \cong \triangle P I G$, and $C O=25, C W=18, I G=23$, and $P G=7 x-17$. Find the value of $x$ and $P G$.

$$
\begin{gathered}
18=7 x-17 \\
x=5
\end{gathered}
$$


3. If $\triangle D(E) \cong \triangle P(Q R)$ and $D E=3 x-10, Q R=4 x-23$, and $P Q=2 x+7$. Find the value of x an $\triangle \mathrm{EF}$,

$$
\begin{array}{cl}
3 x-10=2 x+7 & x=17 \\
x=17 & E F=45
\end{array}
$$

II. Use the given information and triangle congruence statement to complete the following.

1. $\triangle A B C \cong \triangle G E O, A B=4, B C=6$, and $A C=8$. What is the
2. $\triangle B A D \cong \triangle C Y K, m \angle D=52^{\circ}, m \angle B=48{ }^{\circ}$, and $m \angle A=80$.
a. What is the largest angle of $\triangle L U K$ ?

$$
\angle U
$$

b. What is the smallest angle of $\triangle L U K$ ?

$$
<L
$$

3. $\triangle S U N \cong \triangle H O T . ~ \triangle S U N$ is isosceles. Is there enough information to determine if $\triangle H O T$ is isosceles? Explain why or why not.
