

HW #3-7 Answers

① $\overleftrightarrow{HG}$

② $\overleftrightarrow{FG}$

③ $\overleftrightarrow{CG}$

④ plane BCG

⑤ $\angle 3$ and $\angle 5$
 $\angle 4$ and $\angle 6$

⑥ $\angle 4$ and $\angle 5$
 $\angle 3$ and $\angle 6$

⑦ $\angle 1$ and $\angle 5$
 $\angle 3$ and $\angle 7$
 $\angle 2$ and $\angle 6$
 $\angle 4$ and $\angle 8$

⑧ $\angle 1$ and $\angle 8$
 $\angle 2$ and $\angle 7$

⑨ $m\angle 1 = 42^\circ$ b/c lin. pair w/ given $\angle$

$m\angle 2 = 42^\circ$ b/c alt. ext. w/ $\angle 1$

⑩ $m\angle 2 = 123^\circ$ b/c vert. w/ $\angle 1$

$m\angle 1 = 123^\circ$ b/c alt. int. w/ $\angle 1$

⑪ $m\angle 2 = 57^\circ$ b/c alt. int. w/ given $\angle$

$m\angle 1 = 123^\circ$ b/c consec. int. w/ $\angle 2$

*reasons for #9-11
may vary!!

⑫ yes, $m \parallel n$ b/c if consec.
int. $\angle$'s supp $\rightarrow \parallel$

⑬ no, cannot conclude $m \parallel n$

⑭ yes $m \parallel n$ b/c of Trans. Prop. $\parallel$

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$$\textcircled{\#3} \quad X = 40$$

$$\textcircled{\#5} \quad X = 15$$

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$\textcircled{\#36}$

S	R
① all $b, \angle 2 \cong \angle 3$	① given
② $\angle 1 \cong \angle 3$	② $\parallel \rightarrow$ alt. int. $\angle s \cong$
③ $\angle 1 \cong \angle 2$	③ trans. prop. $\cong$
④ $c \parallel d$	④ corresp. $\angle s \cong \rightarrow \parallel$