HW KEY

① $\angle 4 \cong \angle 5$, so $p \parallel q$ by the Conv. of the Corr. $\angle$'s Post.

② $m\angle 1 = 128°$, and $m\angle 8 = 128°$, so $\angle 1 \cong \angle 8$. $P \parallel q$ by the Conv. of the Corr. $\angle$'s post.

③ $m\angle 4 = 47°$, and $m\angle 5 = 47°$, so $\angle 4 \cong \angle 5$. $P \parallel q$ by the Conv. of the Corr. $\angle$'s post.

④ $\angle 1 \cong \angle 5$, so $r \parallel s$ by the Conv. of alt. ext. $\angle$'s thm.

⑤ $\angle 3$ and $\angle 4$ are supp., so $r \parallel s$ by the conv. of same-side int. $\angle$'s thm.

⑥ $\angle 3 \cong \angle 7$, so $r \parallel s$ by the conv. of the alt. Int. $\angle$'s thm.

⑦ $m\angle 4 = 61°$, and $m\angle 8 = 61°$, so $\angle 4 \cong \angle 8$. $r \parallel s$ by the Conv. of the alt. Int $\angle$'s thm.

⑧ $m\angle 8 = 139°$, and $m\angle 7 = 41°$. $139° + 41° = 180°$, so $\angle 8$ and $\angle 7$ are supp. $r \parallel s$ by the conv. of the same-side int. $\angle$'s thm.

⑨ $m\angle 2 = 132°$, and $m\angle 6 = 132°$, so $\angle 2 \cong \angle 6$. $r \parallel s$ by the conv. of the alt. ext. $\angle$'s thm.

⑩ a: Transitive prop of $\cong$. b: $\overline{XY} \parallel \overline{WV}$. c: Conv. of the alt. Int. $\angle$'s thm.

⑪ $m\angle 1 = 60°$, and $m\angle 2 = 60°$, so $\angle 1 \cong \angle 2$. By the conv. of the alt. Int. $\angle$'s thm., the landings are $\parallel$.

⑫ $\angle 3 \cong \angle 7$, so $l \parallel m$ by the conv. of corr. $\angle$'s post.

⑬ $m\angle 4 = 54°$, and $m\angle 8 = 54°$, so $\angle 4 \cong \angle 8$. $l \parallel m$ by the conv. of the corr. $\angle$'s post.

⑭ $m\angle 2 = 124°$, and $m\angle 6 = 124°$, so $\angle 2 \cong \angle 6$. $l \parallel m$ by the conv. of the corr. $\angle$'s post.

⑮ $m\angle 1 = 55°$, and $m\angle 5 = 55°$, so $\angle 1 \cong \angle 5$. $l \parallel m$ by the Conv. of the corr. $\angle$'s post.

16 $\angle 3 \cong \angle 6$, so $n \parallel p$ by the conv. of the alt. Int $\angle$'s thm.

17 $\angle 2 \cong \angle 7$, so $n \parallel p$ by the conv. of the alt. Ext. $\angle$'s thm.

18 $\angle 4$ and $\angle 6$ are supp., so $n \parallel p$ by the conv. of the same-side int. $\angle$'s thm.

19 $m\angle 1 = 105°$, and $m\angle 8 = 105°$, so $\angle 1 \cong \angle 8$. $n \parallel p$ by the conv. of the alt. ext. $\angle$'s thm.

20 $m\angle 4 = 103°$, and $m\angle 5 = 103°$, so $\angle 4 \cong \angle 5$. $n \parallel p$ by the conv. of the alt. Int. $\angle$'s thm.

21 $m\angle 3 = 75°$, and $m\angle 5 = 105°$. $75° + 105° = 180°$, so $\angle 3$ and $\angle 5$ are supp. $n \parallel p$ by the conv. of the same-side int. $\angle$'s thm.

22 a: Corr. $\angle$'s post., b: Given, c: Transitive PoE, d: $\overline{BC} \parallel \overline{DE}$, e: Conv. of Corr. $\angle$'s Post.

23 If $x = 6$, then $m\angle 1 = 20°$ and $m\angle 2 = 20°$. So $\overline{DJ} \parallel \overline{EK}$ by the Conv. of the Corr. $\angle$'s post.

24 Conv. of the Corr. $\angle$'s post.

25 Conv. of the alt. ext. $\angle$'s thm.