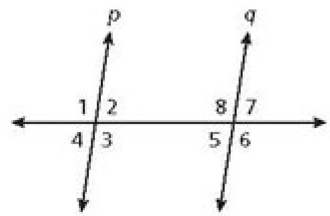
3.3 Homework # 2,-8 even,11, 14, 24, 25, 26, 28, 41

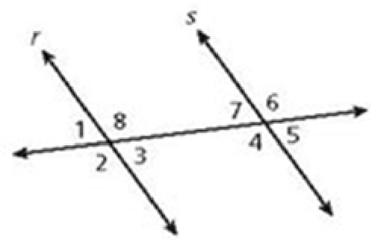
Use the Converse of the Corresponding Angles Postulate and the given information to show that $p \parallel q$.

1. $\angle 4 \cong \angle 5$
2. $m\angle 1 = (4x + 16)^\circ$, $m\angle 8 = (5x - 12)^\circ$, $x = 28$
3. $m\angle 4 = (6x - 19)^\circ$, $m\angle 5 = (3x + 14)^\circ$, $x = 11$



Use the theorems and given information to show that $r \parallel s$.

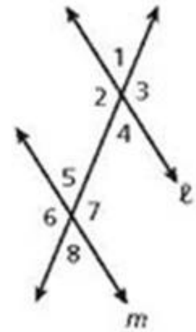
4. $\angle 1 \cong \angle 5$
5. $m\angle 3 + m\angle 4 = 180^\circ$
6. $\angle 3 \cong \angle 7$
7. $m\angle 4 = (13x - 4)^\circ$, $m\angle 8 = (9x + 16)^\circ$, $x = 5$
8. $m\angle 8 = (17x + 37)^\circ$, $m\angle 7 = (9x - 13)^\circ$, $x = 6$
9. $m\angle 2 = (25x + 7)^\circ$, $m\angle 6 = (24x + 12)^\circ$, $x = 5$



11. **Architecture** In the fire escape, $m\angle 1 = (17x + 9)^\circ$, $m\angle 2 = (14x + 18)^\circ$, and $x = 3$. Show that the two landings are parallel.

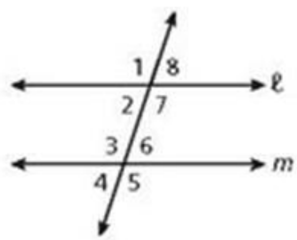
PRACTICE AND PROBLEM SOLVING

Use the Converse of the Corresponding Angles Postulate and the given information to show that $\ell \parallel m$.



12. $\angle 3 \cong 7$
13. $m\angle 4 = 54°$, $m\angle 8 = (7x + 5)°$, $x = 7$
14. $m\angle 2 = (8x + 4)°$, $m\angle 6 = (11x - 41)°$, $x = 15$
15. $m\angle 1 = (3x + 19)°$, $m\angle 5 = (4x + 7)°$, $x = 12$

Name the postulate or theorem that proves that $\ell \parallel m$.



24. $\angle 8 \cong \angle 6$
25. $\angle 8 \cong \angle 4$
26. $\angle 2 \cong \angle 6$
27. $\angle 7 \cong \angle 5$
28. $\angle 3 \cong \angle 7$
29. $m\angle 2 + m\angle 3 = 180°$

41. **Critical Thinking** Are the Reflexive, Symmetric, and Transitive Properties true for parallel lines? Explain why or why not.

Reflexive: $\ell \parallel \ell$

Symmetric: If $\ell \parallel m$, then $m \parallel \ell$.

Transitive: If $\ell \parallel m$ and $m \parallel n$, then $\ell \parallel n$.