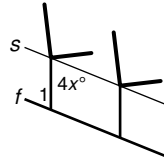


**LESSON** **3-2** **Problem Solving**  
**Angles Formed by Parallel Lines and Transversals**

Find each value. Name the postulate or theorem that you used to find the values.

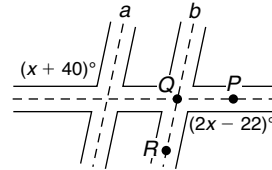
1. In the diagram of movie theater seats, the incline of the floor,  $f$ , is parallel to the seats,  $s$ .



If  $m\angle 1 = 68^\circ$ , what is  $x$ ?

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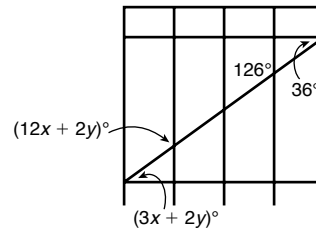
2. In the diagram, roads  $a$  and  $b$  are parallel.



What is the measure of  $\angle PQR$ ?

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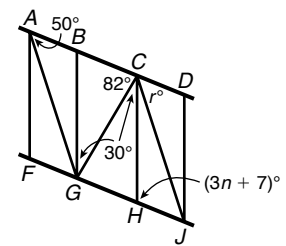
3. In the diagram of the gate, the horizontal bars are parallel and the vertical bars are parallel. Find  $x$  and  $y$ .



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Use the diagram of a staircase railing for Exercises 4 and 5.  $\overline{AG} \parallel \overline{CJ}$  and  $\overline{AD} \parallel \overline{FJ}$ . Choose the best answer.

4. Which is a true statement about the measure of  $\angle DCJ$ ?
- A It equals  $30^\circ$ , by the Alternate Interior Angles Theorem.
  - B It equals  $30^\circ$ , by the Corresponding Angles Postulate.
  - C It equals  $50^\circ$ , by the Alternate Interior Angles Theorem.
  - D It equals  $50^\circ$ , by the Corresponding Angles Postulate.



5. Which is a true statement about the value of  $n$ ?
- F It equals  $25^\circ$ , by the Alternate Interior Angles Theorem.
  - G It equals  $25^\circ$ , by the Same-Side Interior Angles Theorem.
  - H It equals  $35^\circ$ , by the Alternate Interior Angles Theorem.
  - J It equals  $35^\circ$ , by the Same-Side Interior Angles Theorem.