Geometry
Chap. 3 section 3
Parallel lines

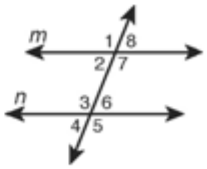
Name: _____
Date: _____
Period: _____

LESSON 3-3

Practice B

Proving Lines Parallel

Use the figure for Exercises 1–8. Tell whether lines *m* and *n* must be parallel from the given information. If they are, state your reasoning. (*Hint:* The angle measures may change for each exercise, and the figure is for reference only.)



1. $\angle 7 \cong \angle 3$

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2. $m\angle 3 = (15x + 22)°$, $m\angle 1 = (19x - 10)°$, $x = 8$

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3. $\angle 7 \cong \angle 6$

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4. $m\angle 2 = (5x + 3)°$, $m\angle 3 = (8x - 5)°$, $x = 14$

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5. $m\angle 8 = (6x - 1)°$, $m\angle 4 = (5x + 3)°$, $x = 9$

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6. $\angle 5 \cong \angle 7$

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7. $\angle 1 \cong \angle 5$

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8. $m\angle 6 = (x + 10)°$, $m\angle 2 = (x + 15)°$

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9. Look at some of the printed letters in a textbook. The small horizontal and vertical segments attached to the ends of the letters are called *serifs*. Most of the letters in a textbook are in a serif typeface. The letters on this page do not have serifs, so these letters are in a sans-serif typeface. (*Sans* means "without" in French.) The figure shows a capital letter *A* with serifs. Use the given information to write a paragraph proof that the serif, segment $\overline{HI}$, is parallel to segment $\overline{JK}$.

Given: $\angle 1$ and $\angle 3$ are supplementary.

Prove: $\overline{HI} \parallel \overline{JK}$