

Name \_\_\_\_\_

**4-3 Lesson Master**

**Questions on SPUR Objectives**  
See Student Edition pages 275–277 for objectives.

**SKILLS** Objective A

In 1–4, use long division to find the quotient  $q(x)$  and the remainder  $r(x)$  when  $p(x)$  is divided by  $d(x)$ .

1.  $p(x) = 2x^3 + 3x - 5, d(x) = x + 4$

$q(x) =$  \_\_\_\_\_

$r(x) =$  \_\_\_\_\_

2.  $p(x) = 7x^5 - 9x^3 + 2x^2 - 5x - 7, d(x) = x^2 - 2$

$q(x) =$  \_\_\_\_\_

$r(x) =$  \_\_\_\_\_

**PROPERTIES** Objective H

In 3–5, a polynomial is given. Without dividing, find the remainder when the polynomial is divided by

a.  $x - 6$ .    b.  $x + 1$ .    c.  $x - k$ .

3.  $x^3 + 2x^2 + 8$     a. \_\_\_\_\_    b. \_\_\_\_\_    c. \_\_\_\_\_

4.  $x^5 - 3x^4 + 4x$     a. \_\_\_\_\_    b. \_\_\_\_\_    c. \_\_\_\_\_

5.  $4x^4 + 3x^2 + 2$     a. \_\_\_\_\_    b. \_\_\_\_\_    c. \_\_\_\_\_

6. Check your answer to Question 1 by using the Remainder Theorem and explain what you did.  
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\_\_\_\_\_

7. If the remainder when  $g(x)$  is divided by  $x + a$  is 4, what is the value of  $g(-a)$ ? Justify your answer.  
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