Name

4-2 Lesson Master

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

SKILLS Objective A

In 1–4, a pair of integers *n* and *d* are given. Find integers *q* and *r* as defined in the Quotient-Remainder Theorem.

1. $n = 42, d = 12$ _____

2. $n = 186, d = 22$ _____

3. $n = 3, d = 5$ _____

4. $n = 34{,}998, d = 25$ _____

In 5 and 6, three of the four integers *n*, *d*, *q*, and *r* as defined in the Quotient-Remainder Theorem are given. Find the missing value.

5. $n = 1213, q = 7, r = 2$ _____

6. $d = 22, q = 19, r = 1$ _____

In 7–9, find the remainder in the given situation.

7. When $x^4 + 2x^2 + 9x - 1$ is divided by $x^3 - 5x^2$, the quotient is $x + 5$. _____

8. When $3x^5 - 2x^4 + 12$ is divided by $x^2 - 1$, the quotient is $3x^3 - 2x^2 + 3x - 2$. _____

9. When $x^{12} + 6x^9 + x^4 - 5x + 11$ is divided by $x^4 - x + 2$, the quotient is $x^8 + 7x^5 - 2x^4 + 7x^2 - 16x - 5$. _____

PROPERTIES Objective H

10. When $8x^4 + 5x + 2$ is divided by a polynomial $d(x)$, the remainder is $r(x)$. If $r(x)$ is not the zero polynomial, what are the possible degrees of $r(x)$? _____

11. When Shannon and Nathan applied the Quotient-Remainder Theorem to divide the polynomial $n(x)$ by the polynomial $d(x)$, they found different quotient polynomials. Can both of them be correct? Explain how you know.

_____

USES Objective J

12. Sarah is arranging senior pictures in the yearbook. She can fit 9 photos on one page. There are 417 students in the senior class this year, and each student submits one photo.

    a. How many full pages of senior photos will there be? _____

    b. How many photos will be on the last, partial page? _____

    c. Relate your answers to Parts a and b to the Quotient-Remainder Theorem.

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