NAME

**Module 11** Simplifying Algebraic Expressions with Polynomials

**Lesson 7** Dividing Polynomials Using Long Division

additional practice

**Use long division to divide these polynomials. Assume that no divisor is equal to zero.**

**1.** $3f - 1\overline{)3f^2 - 7f + 2}$

$f - 2$

**2.** $a + 2\overline{)2a^2 + 7a + 6}$

$2a + 3$

**3.** $5c + 2\overline{)5c^2 + 7c + 11}$

$c + 1 + \frac{9}{5c + 2}$

**4.** $4w - 7\overline{)4w^2 + 5w - 29}$

$w + 3 + \frac{-8}{4w - 7}$

**5.** $(p^2 + 5p + 4) \div (p + 1)$

$p + 4$

**6.** $(g^2 - 9g + 14) \div (g - 7)$

$g - 2$

**7.** $(k^2 + 9k - 5) \div (k - 1)$

$k + 10 + \frac{5}{k - 1}$

**8.** $(x^2 + 4x - 17) \div (x + 6)$

$x - 2 + \frac{-5}{x + 6}$

**9.** $(-8c + 3c^2 + 4) \div (3c - 2)$

$c - 2$

**10.** $(21 - 26s + 8s^2) \div (4s - 7)$

$2s - 3$

**11.** $(7 + a^2 + 6a) \div (a + 5)$

$a + 1 + \frac{2}{a + 5}$

**12.** $(12f^2 + 23f + 13) \div (2 + 3f)$

$4f + 5 + \frac{3}{3f + 2}$

**13.** $(6x^3 - 11x^2 - 7x + 2) \div (2x^2 - 5x + 1)$

$3x + 2$

**14.** $(2r^3 + 17r^2 + 6r - 60) \div (r^2 + 6r - 12)$

$2r + 5$

**15.** $(x^2 - 25) \div (x + 5)$

$x - 5$

**16.** $(a^2 - 81) \div (9 + a)$

$a - 9$

**17.** $(a^3 - 27) \div (a - 3)$

$a^2 + 3a + 9$

**18.** $(8c^3 + 27) \div (2c + 3)$

$4c^2 - 6c + 9$

**19.** $(y^3 + 64) \div (y - 2)$

$y^2 + 2y + 4 + \frac{72}{y - 2}$

**20.** $(10x^4 + 3x^2 + 6x^3) \div (2x^2 + 1)$

$5x^2 + 3x - 1 + \frac{-3x + 1}{2x^2 + 1}$