

HW 7-4  
Dividing Polynomials

Name: \_\_\_\_\_  
Period: \_\_\_\_\_

**Given a polynomial divisor and dividend, use long division to find the quotient and remainder.**

1.  $(18x^3 - 3x^2 + x - 1) \div (x^2 - 4)$

2.  $(6x^4 + x^3 - 9x + 13) \div (x^2 + 8)$

3.  $(x^3 + 25x^2 + 100x) \div (x + 20)$

**Given a polynomial  $p(x)$ , use synthetic division to divide by  $x - a$  and obtain the quotient and the (nonzero) remainder.**

4.  $(7x^3 - 4x^2 - 400x - 100) \div (x - 8)$

5.  $(2.5x^3 + 6x^2 - 5.5x - 10) \div (x + 1)$

