

## Basic Skills 2

Date \_\_\_\_\_ Period \_\_\_\_\_

Describe the end behavior of each function.

As  $x \rightarrow +\infty$ , then  $f(x) \rightarrow$  \_\_\_\_\_As  $x \rightarrow -\infty$ , then  $f(x) \rightarrow$  \_\_\_\_\_

1)  $f(x) = -x^5 + 3x^3 - x + 2$

Factor each.

2)  $f(x) = x^3 + 4x^2 + 3x$

3)  $f(x) = x^3 + 8x^2 + 16x$

Simplify each expression.

4)  $-4x(4x + 1) + 3x^2$

Solve each equation.

5)  $-4(4x - 4) = 64$

6)  $-2(-5 - m) = 15 + 3m$

Solve each equation by factoring.

7)  $n^2 + 2n - 8 = 0$

8)  $r^2 + 8r + 15 = 0$

9)  $5x^2 + 11x + 2 = 0$

Simplify. Your answer should contain only positive exponents.

10)  $2x^4 \cdot (x^{-2})^3$