Name_____ Date _____ Period _____

Algebra II Honors **More on Factors, Zeros, and Dividing**

Factor each and find all zeros. One factor has been given.

1) $f(x) = x^3 + 9x^2 + 23x + 15;\ x + 5$

2) $f(x) = x^3 - x^2 - 14x + 24;\ x - 3$

3) $f(x) = x^4 + 3x^3 - 13x^2 - 15x;\ x - 3$

4) $f(x) = x^3 - 12x^2 + 47x - 60;\ x - 3$

5) $f(x) = x^3 - 7x^2 + 2x + 40;\ x - 5$

6) $f(x) = x^3 - 3x^2 - 9x + 27;\ x - 3$

7) $f(x) = 10x^3 + 37x^2 + 37x + 6;\ 5x + 1$

8) $f(x) = 25x^3 + 150x^2 + 131x + 30;\ 5x + 3$

9) $f(x) = 5x^3 + 21x^2 - 21x - 5;\ x + 5$

10) $f(x) = 3x^3 - 4x^2 - 9x + 10;\ x - 2$

11) $f(x) = 5x^3 + 9x^2 - 26x - 24;\ x + 3$

12) $f(x) = 6x^3 + 7x^2 - 1;\ 2x + 1$

Factor each and find all zeros. One zero has been given.

13) $f(x) = 5x^3 + 4x^2 - 20x - 16;\ 2$

14) $f(x) = 25x^4 - 40x^3 - 19x^2 - 2x;\ -\frac{1}{5}$

15) $f(x) = 3x^4 + 5x^3 + 81x + 135;\ -\frac{5}{3}$

16) $f(x) = 2x^4 - x^3 - 18x^2 + 9x;\ -3$

17) $f(x) = 10x^3 - 41x^2 + 32x + 20;\ \frac{5}{2}$

18) $f(x) = 3x^3 + 4x^2 - 35x - 12;\ 3$