Advanced Algebra 2 CW 5.1-5.3

Factor each of the following completely, if not factorable, say so:

1. x^2+8x+7
2. $3x^2+2x-5$
3. $16x^3+16x^2-x-1$
4. x^3-27
5. $8x^3+125y^3$

6. Determine the leading coefficient and degree for:

$5x-2x^4+6x^5+4x^2-x^3-10$

7. Determine the end behavior for:

$f(x)=-2x^4+5x^3-3x^2-x+7$

8. State the zero's along with any multiplicity greater than 1.

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

9. What are x-intercepts of the given polynomial?

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

Sketch the graph for the following:

10. $f(x)=-(x-1)^2(x+3)$
11. $f(x)=(x+2)(x-3)^2(x-1)$
12. has zero of -2 multiplicity of 2, and 1 with multiplicity of 2 (assume a positive leading coefficient)

13. Write the equation of the polynomial given the graph. (Assume an a-value of 1)