Honors Algebra II Name_____

LT 8-1: Characteristics of Polynomials Day 3 Period____

Write the following polynomials in standard form:

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

2) $g(x) = (x+1)(x+2)(x+3)$

Write a polynomial function in standard form with the given zeros.

3) $x = -2, 0, 1$

4) $x = 3$ multiplicity 2

5) $x = -2, 0$ multiplicity $3,\ 2$

6) $x = -4, -3, 0, 3, 4$

7) Write a polynomial equation for a graph that passes through the point $(-1, 60)$ and has three x-intercepts: $(-4, 0)$, $(1, 0)$, and $(3, 0)$.

8) Write a polynomial equation for a graph that has three x-intercepts: $(-5, 0)$, $(3, 0)$ and $(1, 0)$ and it passes through the point $(4, 108)$.

9) Write a polynomial equation for a graph that has x-intercepts at $(-2, 0)$ and $(3, 0)$, a bounce point at $(-4, 0)$ and passes through the point $(5, 25)$.

10) A rectangular box is $2x + 3$ units long, $2x - 3$ units wide, and $3x$ units high. Express its volume as a polynomial in standard form.