Advanced Precalculus **Name:** _____
HW: Intro Polynomials

In Problems 1 – 9, classify the polynomial by its number of terms and identify its degree.

1.) $f(x)=-2x+5x^3$ 2.) $f(x)=8+4x^2+x^4$ 3.) $f(x)=6x^2$

4.) $f(x)=7x^4-x$ 5.) $f(x)=x^2+2x-5$ 6.) $f(x)=7x^5-1+x^3$

7.) $f(x)=8x^2-x^3$ 8.) $f(x)=2x^4-3x+1$ 9.) $f(x)=2x-7$

In Problems 10 – 18, determine if the function is a polynomial function.

10.) $f(x)=8x^2-\sqrt{x}$ 11.) $f(x)=8x^3-2x^{-1}$ 12.) $f(x)=\dfrac{2x-7}{x}$

13.) $f(x)=x^2+2^x$ 14.) $f(x)=x(x^2-3x+1)$ 15.) $f(x)=8x^5-2x\sqrt{x}+5$

16.) $f(x)=2x-1$ 17.) $f(x)=5$ 18.) $f(x)=\sqrt{3}x^3+\sqrt{2}x^2-1$

19.) Provide examples of each of the following types of polynomial functions:

(A) Cubic Trinomial

(B) Constant

(C) Quartic Binomial

(D) Quadratic Binomial

(E) Quintic Trinomial

(F) Cubic Monomial

20.) Provide an analysis of the following polynomial functions:

$f(x)=x^4-4x^3-49x^2+76x+480$

Sketch:

$g(x)=-x^5+x^4+14x^3-28x^2-8x+32$

Sketch:

Property	***f(x)***	***g(x)***
Zero(s):		
Local Maximum Points:		
Local Minimum Points:		
Increasing Intervals:		
Decreasing Intervals:		
# of Turning Points:		
Degree:		
End Behavior:		
Domain:		
Range:		
Classify by # Terms:		