Algebra 2
Name_____ ID: 1

Identifying Polynomial Attributes

Date_____ Period____

Describe the end behavior of each function.

1) $f(x) = -x^4 + x^2$

2) $f(x) = x^2 + 6x + 3$

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

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

5) $f(x) = -x^2 - 4x - 5$

6) $f(x) = -x^3 + 4x^2 - 6$

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

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

Name each polynomial by degree and number of terms.

9) $10b^5 + b^2 + 6$

10) $-10b^5 - 6b^4 - 10b^2$

11) $9b^5$

12) $-5v$

13) $5m^4 - 2m^3 - 8m + 8$

14) -1

15) $6k$

16) $-8p^6$

Write a polynomial function of least degree with integral coefficients that has the given zeros.

17) 2 mult. 2, $\dfrac{5}{3}$

18) 3, 1, −4

19) 1, −5, −1

20) $\dfrac{1}{3}$, −2, 1

21) −3 mult. 2, 0

22) $-\dfrac{1}{5}$, $\dfrac{4}{3}$, $-\dfrac{2}{3}$

-1-

Find all zeros.

23) $f(x) = x^2(x-1)(x-4)$

24) $f(x) = (x-11)(x-1)^2$

25) $f(x) = (x-2)^2$

26) $f(x) = (x-2)(x-5)$

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

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

29) $f(x) = (x+7)(x-1)^2$

30) $f(x) = (x+1)^2(x+7)$