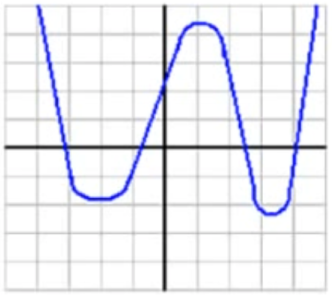
Examples

Determine if each function has an even or odd degree, how many real zeros the polynomial has, and possible type of polynomial. Also describe the end behavior of the function.

8) 

9) 

Examples

Identify the type of each polynomial.
State the degree & how many real zeros are possible.

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

Type of Polynomial:

Degree:

Number of Real Zeros:

2) $f(x) = 2x^5 + 3x^3 + 9$

Type of Polynomial:

Degree:

Number of Real Zeros:

3) $f(x) = 4x + 2$

Type of Polynomial:

Degree:

Number of Real Zeros:

4) $f(x) = -5x^2 + 2x + 9$

Type of Polynomial:

Degree:

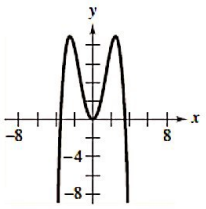
Number of Real Zeros:

Name:_____ Date:_____

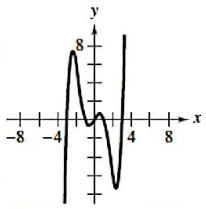
2.2 Polynomial Functions of Higher Degree – Homework

Match the polynomial function with its graph (Do NOT graph)

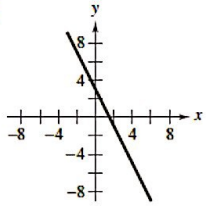
(a)



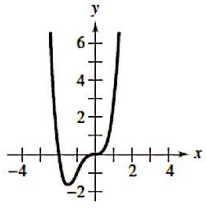
(b)



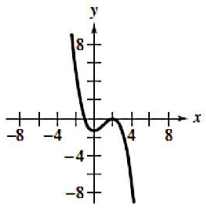
(c)



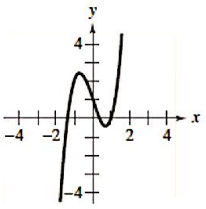
(d)



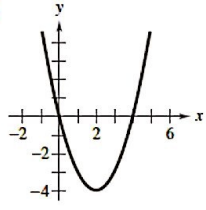
(e)



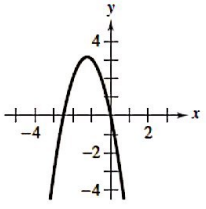
(f)



(g)



(h)



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

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

3) $f(x) = -\frac{1}{4}x^4 + 3x^2$

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

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

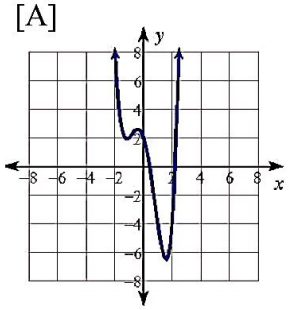
6) $f(x) = 2x^3 - 3x + 1$

7) $f(x) = -\frac{1}{3}x^3 + x^2 - \frac{4}{3}$

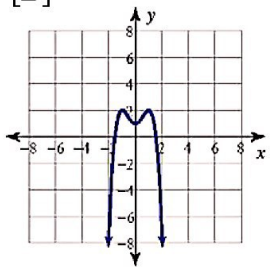
8) $f(x) = \frac{1}{5}x^5 - 2x^3 + \frac{9}{5}x$

20) Match each graph with its description:

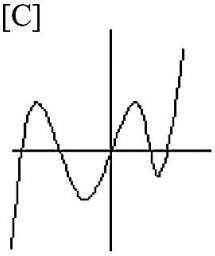
[A]



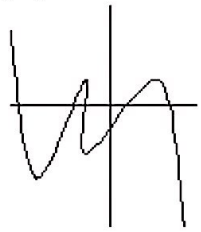
[B]



[C]



[D]



___ 8^{th}-degree polynomial, negative leading coefficient.

___ 7^{th}-degree polynomial, negative leading coefficient.

___ 5^{th}-degree polynomial, positive leading coefficient.

___ 4^{th}-degree polynomial, positive leading coefficient.

Kuta Software - Infinite Algebra 2 Name_____

Graphing Polynomial Functions: Basic Shape

Date_____ P

Describe the end behavior of each function.

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

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

3) $f(x) = x^3 - 9x^2 + 24x - 15$

4) $f(x) = x^2 - 6x + 11$

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

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

7) $f(x) = 2x^2 + 12x + 12$

8) $f(x) = x^2 - 8x + 18$