

## Assignment

Date \_\_\_\_\_ Period \_\_\_\_\_

**Name each polynomial by degree and number of terms.**

1)  $3b^5$

2) 3

3)  $-8a^3 - 8a^2 + 6$

4)  $-n^2 - n + 1$

5)  $9k^4 - 2k^3 + 8k^2$

6)  $-4m - 10$

**Evaluate each function at the given value.**

7)  $f(n) = n^4 + 3n^3 - 12n^2 + 8n - 5$  at  $n = 2$

8)  $f(n) = n^3 - 3n^2 - 3n - 10$  at  $n = 4$

9)  $f(x) = 5x^4 + 14x^3 - 2x^2 + 8x + 16$  at  $x = -3$

10)  $f(m) = m^4 + m^3 - 7m^2 - 9m - 6$  at  $m = -2$

$$11) f(n) = n^3 - 8n^2 + 10n - 7 \text{ at } n = 2$$

$$12) f(x) = x^4 + x^3 - x^2 - 10x - 12 \text{ at } x = 2$$

**Describe the end behavior of each function.**

$$13) f(x) = -x^3 + 4x^2 - 7$$

$$14) f(x) = x^4 - 4x^2 - x$$

$$15) f(x) = -x^5 + 2x^3 - 4$$

$$16) f(x) = x^5 - 3x^3 + 2x - 3$$

$$17) f(x) = -x^5 + 3x^3 - 2x - 4$$

$$18) f(x) = -x^5 + 3x^3 - 3x + 2$$

$$19) f(x) = x^5 - 4x^3 + 3x - 3$$

$$20) f(x) = x^4 - 3x^2 - 2x - 2$$

## Answers to Assignment (ID: 1)

- 1) fifth degree monomial      2) constant monomial      3) cubic trinomial  
4) quadratic trinomial      5) quartic trinomial      6) linear binomial      7) 3  
8) -6      9) 1      10) -8      11) -11  
12) -12      13)  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$       14)  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$   
 $f(x) \rightarrow -\infty$  as  $x \rightarrow +\infty$        $f(x) \rightarrow +\infty$  as  $x \rightarrow +\infty$   
15)  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$       16)  $f(x) \rightarrow -\infty$  as  $x \rightarrow -\infty$       17)  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$   
 $f(x) \rightarrow -\infty$  as  $x \rightarrow +\infty$        $f(x) \rightarrow +\infty$  as  $x \rightarrow +\infty$        $f(x) \rightarrow -\infty$  as  $x \rightarrow +\infty$   
18)  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$       19)  $f(x) \rightarrow -\infty$  as  $x \rightarrow -\infty$       20)  $f(x) \rightarrow +\infty$  as  $x \rightarrow -\infty$   
 $f(x) \rightarrow -\infty$  as  $x \rightarrow +\infty$        $f(x) \rightarrow +\infty$  as  $x \rightarrow +\infty$        $f(x) \rightarrow +\infty$  as  $x \rightarrow +\infty$