

Example

This Assignment is Based on Practice # 1 of Packet :4

$$7x^2 + 3x - 2x^4 + 8x^6 - 7$$

First, look at the degrees for each term in the expression.

$7x^2$ has a degree of 2

$3x$ has a degree of 1

$-2x^4$ has a degree of 4

$8x^6$ has a degree of 6

-7 has a degree of 0

Next, write this polynomial in order by degree, highest to lowest

$$8x^6 - 2x^4 + 7x^2 + 3x - 7$$

Then, the highest degree identifies the degree of the polynomial.

The term $8x^6$ is the highest degree so the degree of the polynomial is 6.

a) Standard Form: $8x^6 - 2x^4 + 7x^2 + 3x - 7$

b) Leading Coefficient: 8

c) Degree: 6

d) Number of Terms: 5

e) Name: *Sextic polynomial of five terms*

Refer to Page # 3, 4, and 5
of your packet :4 for notes
on classification based on
number of terms and degree

For the following questions write each of the following :

- Write Each Polynomial in Standard form
- Identify the Leading Coefficient
- Identify the Degree
- Identify number of terms
- Name/Classify the polynomial based on their degree and number of terms.

Simplify first if necessary.

1. $4x + x + 2$

2. $-3 + 3x - 3x$

3. $6x^4 - 1$

10. $2 + 3x^3 - 2$

11. $6 - 2x^3 - 4 + x^3$

12. $6x - 7x$

13. $a^3(a^2 + a + 1)$

14. $x(x + 5) - 5(x + 5)$

15. $p(p - 5) + 6$

19. $\frac{2}{3} + s^2$

20. $\frac{2x^4 + 4x - 5}{4}$

21. $\frac{3 - z^5}{3}$