Polynomials have special names based on the number of terms.

<table>
<thead>
<tr>
<th>No. of Terms</th>
<th>POLYNOMIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Monomial</td>
</tr>
<tr>
<td>2</td>
<td>Binomial</td>
</tr>
<tr>
<td>3</td>
<td>Trinomial</td>
</tr>
<tr>
<td>4 or more</td>
<td>Polynomial</td>
</tr>
</tbody>
</table>

The degree of a monomial is the sum of the exponents in the monomial. The degree of a polynomial is the degree of the term with the greatest degree.

**Examples**

Find the degree of $8x^2y^3$.

$8x^2y^3$ The exponents are 2 and 3.

The degree of the monomial is $2 + 3 = 5$.

Find the degree of $4ab + 9a^3$.

$\frac{2}{3}a^3$ The degree of the binomial is 3.

Identify each polynomial. Write the degree of each expression.

1. $7m^3n^5$
2. $4x^2y^3 + y^4 + 7$
3. $x^5 - x^5y$

You can simplify polynomials by combining like terms.

The following are like terms:

- $4y$ and $7y$
- $8x^2$ and $2x^2$
- $7m^5$ and $m^5$

The following are not like terms:

- $3x^2$ and $3x$
- $47$ and $7y$
- $8m$ and $m^5$

**Examples**

Add $3x^2 + 4x + 5x^2 + 6x$.

$3x^2 + 5x^2 + 4x + 6x$

$8x^2 + 10x$

$Identify and rearrange like terms so they are together.$

Combine like terms.

Simplify each expression.

4. $2y^2 + 3y + 7y + y^2$
5. $8m^4 + 3m - 4m^4$
6. $12x^5 + 10x^4 + 8x^4$