Recall: **Term**: constant or product of a constant and variables raised to some power

The **numerical coefficient** is the numerical factor of the term.

**Example 1**: Fill in the table below.

<table>
<thead>
<tr>
<th>Term</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>3x</td>
<td></td>
</tr>
<tr>
<td>r</td>
<td></td>
</tr>
<tr>
<td>-x</td>
<td></td>
</tr>
</tbody>
</table>

A **monomial** is one term in which any variables are raised to a whole number and none of these variables are in any denominator.

**Examples**:

**Polynomials**

A **polynomial** is a finite sum of terms in which all variables are raised to a whole number and none of these variables are in any denominator (in other words, a finite sum of monomials). The degree of a polynomial is the largest of the degrees of its terms. Polynomials are generally written in descending order in terms of their variable. In this class we will only work with polynomials in one variable.

There are special names that are used to classify some polynomials. One way we can classify polynomials is by how many terms they contain.

**Monomial**: A monomial in $x$ is a term of the form $kx$ raised to some whole number power $n$. The exponent $n$ is called the degree of the monomial and the $k$ is called the coefficient.

**Binomial**:

**Trinomial**:

These are the only ones we will give special names to in this class.
We can also classify polynomials by their **degree**.

**Degree of a Polynomial**

The **degree of a monomial** is the sum of all the exponents on the ____________________.

*Example 2:* Find the degree of each monomial.

a) $4y^3$

b) $r$

c) 10

**Polynomial Functions**

A polynomial function in 1 variable is a function that is written in the form of a polynomial.

For example, $P(x) = 6x^2 - 4x + 5$ is a ______________ degree polynomial function and $P(x) = 4x + 5$ is a ______________ degree polynomial function.

Notice that we have written the powers on the variable in descending order, with the constant last. This is standard form.

**Evaluating polynomials:**

To evaluate a polynomial for a given value of the variable:

1. Substitute that value of the variable wherever it occurs in the polynomial and
2. Follow the rules for order of operations.