## ***POLYNOMIALS :INTRODUCTION***

A polynomial is a mathematical expression that uses variables, constants, and exponents.

Is $f(x)=\frac{4}{7}x^4 - \frac{5}{11}y^3$ polynomial? Yes , because

The only requirement for the coefficients is that they be real numbers and the exponents be positive integers, so this is a polynomial with rational coefficients.

Identify whether given is polynomial or not ?

$-3p^2q - 4p + 2p^7qr + q^{-4} + 5$

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$y^5 - 3y^4 + y^3 - y$

_____

$u - u^2 + \sqrt{7} + u^4 + u^7$

_____

$-6m^5n + 2\sqrt{m}$

_____

$5x^2 + \frac{4}{x^2 + x} + x^5$

_____

$-a^2b$

_____

$-c^2 - 9c^2d - 4c^3d$

_____

$6rs + 2s^3t - s^{-2} + 3$

_____

LIVEWORKSHEETS

$7uv - v^2w + \frac{u}{\sqrt{6}}$

$m^2 + n^{-7}$

_____ _____

$q^8 + 3q^5 - 6q^3 + q^2$

$6vwx - \frac{w}{x} + v^2 - vw^4 + wx$

_____ _____

## ***DEGREE OF POLYNOMIAL***

The degree of a polynomial in one variable is the highest exponent of the variable in that polynomial. Degree of $13x^6 - 4x^3 + 3$ is 6.

Write the degree of the following polynomials :

$3x^4 + 2xyz + 5x^2 - 4$

$-6s^2tu^3 + st + tu^2 + st^3u + t^3$

_____ _____

$-d^2 - d - 9d^3$

$uv + 4u$

_____ _____

LIVEWORKSHEETS

$6u^2 + u^2vw - 2u^3vw + 4u^3$

_____

$3m^5n^2$

_____

$p^2q^3r^3 - p^4qr^2 + 7 + qr + p^6q$

_____

$-8a^2 + abc + b^2c^2 + ab$

_____

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

_____

$4r^4 + r^3s^4t^3 - r^2s^3t + t^6 + 3$

_____

$-q^3rs^2 + 3 - q^7r^2 + r^2s^4$

_____

$w^4xy^5 - w^6xy^3 + 9w^4x^5y^2$

_____

$-8u^2vw - u^3 - u^4v$

_____

$4w^7xy^3 + wx^5 - x^6y + wxy$

_____

$3a^4b^3 + b^4 + a^3b^3 + 4 + a^5$

_____

$-5m - m^3 - m^2 + 9m^4$

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| In the polynomial , $14y^3 - 6y^8 - 7y^4 + 21y^2 + 8y + 6y^5 + 1$ ; state the following | |
|---|---|
| Degree | |
| Leading term | |

LIVEWORKSHEETS

| | |
|---|---|
| Leading coefficient | |
| Constant term | |

LIVEWORKSHEETS