

BINOMIO DE NEWTON

Desarrollar y simplificar:

1) $\left(3x^2y - \frac{2}{x}\right)^6$

$$\text{Sol: } 729x^{12}y^6 - 2916x^9y^5 + 4860x^6y^4 - 4320x^3y^3 - \frac{576y}{x^3} + \frac{64}{x^6} + 2160y^2$$

2) $(2a^3b + a^4)^5$

$$\text{Sol: } a^{20} + 10a^{19}b + 40a^{18}b^2 + 80a^{17}b^3 + 80a^{16}b^4 + 32a^{15}b^5$$

3) $(-3a^2b^3 - 2a^3)^4$

$$\text{Sol: } 16a^{12} + 96a^{11}b^3 + 216a^{10}b^6 + 216a^9b^9 + 81a^8b^{12}$$

Calcular, sin desarrollar, el 4º término de:

4) $\left(4x^3y - \frac{2}{\sqrt{x}}\right)^5$

$$\text{Sol: } -1280y^2x^{9/2}$$

5) $(5a^3b + 2\sqrt{a})^7$

$$\text{Sol: } 175000b^4a^{27/2}$$

6) $\left(-2x^3y^4 - \frac{4x^2}{y^5}\right)^6$

$$\text{Sol: } 10240x^{15}/y^3$$