

plataforma: ejercicios #3

$$1) (a^2 - b^3)^2$$

$$2) (m^3 + 2a^2)^3$$

$$3) (3x + 2y)^4$$

$$4) (5ax - 2a)^5$$

$$5) (2x^2 - 3y^5)^6$$

$$1) (a^2 - b^3)^2$$

1

1 1

1 2 1

1 3 3 1

1 4 6 4 1

1 5 10 10 5 1

$$(a^2)^5 - 5(a^2)^4(b^3)^1 + 10(a^2)^3(b^3)^2 - 10(a^2)^2(b^3)^3 + 0(a^2)(b^3)^4 - 7(b^3)^5 =$$

$$1(a^{10}) - 5(a^8)(b^3) + 10(a^6)(b^6) - 10(a^4)(b^9) + 6(a^2)(b^{12}) - 7(b^{15}) =$$

$$1a - 5ab^3 - 10a^2b^6 - 10a^3b^9 + 5a^4b^{12} - 7b^{15}$$

$$2) (m^3 + 2n^4)^2$$

$$\begin{array}{r} 1 \\ 1 \ 1 \\ 1 \ 2 \ 1 \\ 1 \ 3 \ 3 \ 1 \\ 1 \ 4 \ 6 \ 4 \ 1 \\ 1 \ 5 \ 10 \ 10 \ 5 \ 1 \\ 1 \ 6 \ 15 \ 20 \ 15 \ 6 \ 1 \end{array}$$

$$1 \ 7 \ 21 \ 35 \ 35 \ 21 \ 7 \ 1$$

$$\begin{aligned} &1(m^3)^7 + 7(m^3)^6(2n^4)^1 + 21(m^3)^5(2n^4)^2 + 35(m^3)^4(2n^4)^3 \\ &+ 35(m^3)^3(2n^4)^4 + 21(m^3)^2(2n^4)^5 + 7(m^3)(2n^4)^6 + (2n^4)^7 \end{aligned}$$

$$\begin{aligned} &1(m^4) + 7(m^4)(2m^4) + 21(m^{10})(2n^8) \\ &+ 35(m^4)(2n^{16}) + 21(m^6)(2n^{20}) \\ &+ 7(2n^{26}) \end{aligned}$$

$$(3x + 2y)^4$$

$$\begin{array}{r} 1 \\ 1 \ 1 \\ 1 \ 2 \ 1 \\ 1 \ 3 \ 3 \ 1 \\ 1 \ 4 \ 6 \ 4 \ 1 \end{array}$$

$$\begin{aligned} &1(5m)^5 - 5(5m)^4(2n) + 10(5m)^3(2n)^2 + 10(5m)^2(2n)^3 \\ &+ 5(5m)(2n)^4 - 1(2n)^5 \end{aligned}$$

$$\begin{aligned} &1(5m^4) - 5(5m^4)(n) + 10(5m^3)(2n^2) - 10(5m^2)(2n^3) + 5(5m)(2n^4) - 1(2n^5) \end{aligned}$$

$$4. (5m - 2n)^5$$

$$\begin{array}{ccccccc} & & & & 1 & & \\ & & & & 1 & 1 & \\ & & & 1 & 2 & 1 & \\ & & 1 & 3 & 3 & 1 & \\ & 1 & 4 & 6 & 4 & 1 & \\ 1 & 5 & 10 & 10 & 5 & 1 & \end{array}$$

$$1(5m)^5 - 5(5m)^4(2n) + 10(5m)^3(2n)^2 - 10(5m)^2(2n)^3 + 5(5m)(2n)^4 + (2n)^5$$

$$1(5m)^5 - 5(5m)^4(2n) + 10(5m)^3(2n)^2 - 10(5m)^2(2n)^3 + 5(5m)(2n)^4 - 1(2n)^5$$

$$5m^5 - 50m^4n + 100m^3n^2 - 100m^2n^3 + 50mn^4 - 2n^5$$

$$5. (2x^3 - 3y^4)^6$$

$$\begin{array}{ccccccc} & & & & 1 & & \\ & & & & 1 & 1 & \\ & & & 1 & 2 & 1 & \\ & & 1 & 3 & 3 & 1 & \\ & 1 & 4 & 6 & 4 & 1 & \\ & 1 & 5 & 10 & 10 & 5 & 1 \\ 1 & 6 & 15 & 20 & 15 & 6 & 1 \end{array}$$

$$(2x^3)^6 + (-6)(2x^3)^5(3y^4) + 15(2x^3)^4(3y^4)^2 - 20(2x^3)^3(3y^4)^3 + 15(2x^3)^2(3y^4)^4 - 6(2x^3)(3y^4)^5 + 1(3y^4)^6$$

$$1(2x^6) - 6(2x^3)(3y^4) + 15(2x^4)(3y^8) - 20(2x^3)(3y^{12}) + 15(2x^6)(3y^4) - 6(2x^5)(3y^{20}) + (3y^{24})$$