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Materia: Álgebra

Grado: 1er Cuatrimestre

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Examen = 005-

$$\begin{aligned} 1 &= (-4x)(5x^3y^3)(-2x^2y) \\ &= -4x^4(5y^3)(-2x^2y) \\ &= -4x^6(5y^3)(-2y) \\ &= -4x^6y^4(5)(-2) \\ &= -4x^6y^4(-10) \\ &= x^6y^4(-10)(-4) \\ &= \underline{40x^6y^4} \end{aligned}$$

$$\begin{aligned} 2 &= (-2a^3bc)(-4a^2b^2c^2)(5abc)(-6ab^2) \\ &= -2a^7bc(-4b^2c^2)(5bc)(-6b^2) \\ &= -2a^7b^6c(-4c^2)(5c)(-6) \\ &= -2a^7b^6c^4(-4)(5)(-6) \\ &= -2a^7b^6c^4(-4)(-30) \\ &= -2a^7b^6c^4(120) \\ &= a^7b^6c^4(-2)(120) \\ &= \underline{240a^7b^6c^4} \end{aligned}$$

$$\begin{aligned} 3 &= (3a^3 + 5b^2 - 4)(3a) \\ &= 9a^4 + 5b^2 \cdot 3a - 4(3a) \\ &= 9a^4 + 15b^2a - 4(3a) \\ &= 9a^4 + 15b^2a - 12a \\ &= \underline{9a^4 + 15ab^2 - 12a} \end{aligned}$$

$$\begin{aligned} 4 &= (2/3a^3b^2 - 1/4a^2b^3 + 5/6ab^4 - 2/5b^5)(-1/2ab^2) \\ &= (2/3)(-1/2)(a^3b^2)(ab^2) = 1/3a^4b^4 \\ &= (-1/4)(-1/2)(a^2b^3)(ab^2) = 1/8a^3b^5 \\ &= (5/6)(-1/2)(ab^4)(ab^2) = -5/12a^2b^6 \\ &= (-2/5)(-1/2)(b^5)(ab^2) = 1/5ab^7 \\ &= \underline{1/3a^4b^4 + 1/8a^3b^5 - 5/12a^2b^6 + 1/5ab^7} \end{aligned}$$

$$5 = (x^4 - 2x^3 - 11x^2 + 3x - 20)(x^2 + 3x - 2)$$

$$= x^6 + 3x^5 - 2x^4 - 2x^5 - 6x^4 + 4x^3 - 11x^4 - 33x^3 + 22x^2 + 3x^3$$

$$+ 9x^2 + 6x - 20x^2 - 60x - 40$$

$$= x^6 + x^5 - 19x^4 - 26x^3 + 11x^2 - 66x - 40$$

$$6 = (x^6 + 5x^4 + 3x^2 - 2x)(x^2 - x + 3)$$

$$= x^8 - x^7 + 3x^6 + 5x^6 - 5x^5 + 15x^4 + 3x^4 - 3x^3 + 9x^2 - 2x^3 + 2x^2 - 6x$$

$$= x^8 - x^7 + 8x^6 - 5x^5 + 18x^4 - 5x^3 + 11x^2 - 6x$$

$$7 = (2x^4 - 2x^3 + 3x^2 + 5x + 10)(x + 2)$$

$$= 2x^5 + 4x^4 - 2x^4 - 4x^3 + 3x^3 + 6x^2 + 5x^2 + 10x + 10x + 20$$

$$= 2x^5 + 2x^4 - x^3 + 11x^2 + 20x + 20$$