

07 11 11 (1)

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$$28 a) (x+7) \cdot (x-7) = x^2 - 7^2$$

$$28 b) (7x+4y) \cdot (7x-4y) = (7x)^2 - (4y)^2 = 49x^2 - 16y^2$$

$$29 a) x^2 - 1 = (x+1) \cdot (x-1)$$

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$$29b) x^4 - 9 = (x^2 + 3) \cdot (x^2 - 3)$$

$$29c) 16 - x^2 = (4 - x) \cdot (4 + x)$$

$$30a) 4x^2 - 4x + 1 = (2x - 1)^2$$

$$30b) 9a^2 - 30ab + 25b^2 = (3a - 5b)^2$$

$$30c) 100x^2 - 4z^6 = (10x + 2z^3) \cdot (10x - 2z^3)$$

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$$37a) xz + 3xz + 6xz = \underline{\underline{10xz}}$$

$$37b) a^2b + 9a^2b + 27a^2b = \underline{\underline{37a^2b}}$$

$$39b) 5xy^3 - 2xy^3 + 7xy^3 - 3xy^3 + 12xy^3 = \underline{\underline{19xy^3}} \\ \text{grado 4}$$

$$39e) (2xyz) \cdot (2x^2yz^3) = \underline{\underline{4x^3y^2z^4}} \text{ grado 9}$$

$$39f) (-2abc) \cdot (3a^2b^2c^2) \cdot (-bc) =$$

$$(-6a^3b^3c^3) \cdot (-bc) = \underline{\underline{6a^3b^4c^4}} \text{ grado 11}$$

$$39i) (21x^2y^3) : (7x \cdot y^2) = \frac{21 \cdot x^{\frac{1}{2}} y^{31}}{7 \cdot x \cdot y^2} = \underline{\underline{3xy}}$$

43 a)

$$6x^2 - 5(-x^2) + 8x^2 - (2x) \cdot (3x) =$$

$$6x^2 + 5x^2 + 8x^2 - 6x^2 = \underline{\underline{9x^2}}$$

48 b)

$$B(x) = \frac{1}{2}x^4 + 3 \quad \text{para } x=2$$

$$B(2) = \frac{1}{2}2^4 + 3 = \frac{1}{2}16 + 3 = 8 + 3 = \underline{\underline{11}}$$

51 a)

$$P(x) = kx^7 + x^3 + 3x + 1$$

$$P(1) = k1 + 1 + 3 + 1 = 6 // k + 5 = 6 // k = 6 - 5 = \underline{\underline{1}}$$

$$\underline{\underline{k=1}}$$

52 a)

$$P(x) + Q(x)$$

$$\begin{array}{r}
 P(x) = 2x^5 - 3x^4 + 7x^3 - 2x^2 + 3x - 6 \\
 + Q(x) = 3x^4 - 2x^3 + 2x^2 - 7x - 1 \\
 \hline
 2x^5 + 5x^3 - 2x^2 - 4x - 7
 \end{array}$$

52 c)

$$P(x) - S(x)$$

$$\begin{array}{r}
 P(x) = 2x^5 - 3x^4 + 7x^3 - 2x^2 + 3x - 6 \\
 - S(x) = - 2x^2 + x - 3 \\
 \hline
 2x^5 - 3x^4 + 7x^3 - 2x^2 + x - 9
 \end{array}$$

53 e)

$$P(x) = \frac{1}{2}x^2 - 2xy - \frac{3}{2}y^2$$

$$+ Q(x) = x^2 - xy - y^2$$

$$\frac{3}{2}x^2 - 3xy - \frac{5}{2}y^2$$

$$P(x) = \frac{1}{2}x^2 - 2xy - \frac{3}{2}y^2$$

$$\begin{array}{r}
 - Q(x) = -x^2 + xy + y^2 \\
 \hline
 -\frac{1}{2}x^2 - xy - \frac{1}{2}y^2
 \end{array}$$

071111 (4)

$$56c) P(x) = 2x^6 - 7x^4 + 2x^3 - 2x^2 + x - 1$$

$$x R_x = \frac{}{x^2 - x + 1}$$

$$\begin{array}{r} 2x^6 - 7x^4 + 2x^3 - 2x^2 + x - 1 \\ -2x^7 + 7x^5 - 2x^4 + 2x^3 - x^2 + x \\ +2x^8 - 7x^6 + 2x^5 - 2x^4 + x^3 - x^2 \\ \hline +2x^8 - 2x^7 - 5x^6 + 9x^5 - 11x^4 + 5x^3 - 4x^2 + 2x - 1 \end{array}$$

595)

$$\begin{array}{r} 4x^4 - 2x^3 + 3x^2 - 2x + 5 \quad | \quad x+1 \\ -4x^4 - 4x^3 \\ \hline / \quad -6x^3 + 3x^2 - 2x + 5 \\ \quad 6x^3 + 6x^2 \\ \hline / \quad +9x^2 - 2x + 5 \\ \quad -9x^2 - 9x \\ \hline / \quad -11x + 5 \\ \quad +11x + 11 \\ \hline / \quad 16 \end{array}$$

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$$68g) \frac{2}{7} + 3 : \frac{21}{35} = \frac{2}{7} + \frac{105}{21} = \frac{6}{21} + \frac{105}{21} = \frac{111}{21} = \frac{37}{7}$$

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$$74a) 5'24 = \frac{524}{100} = \frac{131}{25}$$

$$74c) 3'7 = \frac{37-3}{9} = \frac{34}{9}$$

$$74e) 5'12 = \frac{512-51}{90} = \frac{461}{90}$$

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$$49g) [6^9 \cdot 6^5] : [6^4 \cdot 6^2] = 6^{14} : 6^6 = \underline{\underline{6^8}}$$

$$50d) [(-8) : 5]^3 = -8^3 : 5^3 = -512 : 125 = \underline{\underline{-4'096}}$$

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$$56c) 4^9 : 4^2 \cdot 4^4 \neq 4^9 : 4^6$$

Multiplicaciones y divisiones de izquierda a derecha

$$4^9 : 4^2 \cdot 4^4 = 4^7 \cdot 4^4 = \underline{\underline{4^{11}}}$$

$$60a) (-2)^{-4} \cdot [(-2)^2]^3 = (-2)^{-4} \cdot (-2)^6 = \underline{\underline{(-2)^2 = 2^2}}$$

65b)

$$\begin{aligned} (-45)^{15} \cdot [(-15)^3]^{-6} &= (-3^2 \cdot 5)^{15} \cdot (-3 \cdot 5)^{-18} = \\ &= -3^{30} \cdot 5^{15} \cdot -3^{-18} \cdot 5^{-18} = \underline{\underline{-3^{12} \cdot 5^{-3}}} \end{aligned}$$