

Exercice 2,4 - 2e partie - solutions

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$$\begin{aligned} \text{a)} \quad & 3x^2 + 6x \\ & = 3x(x+2) \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & 8y^3 - 4y^2 \\ & = 4y^2(2y-1) \end{aligned}$$

$$\begin{aligned} \text{c)} \quad & 5p^3 - 15p^2 \\ & = 5p^2(p-3) \end{aligned}$$

$$\begin{aligned} \text{d)} \quad & 24m^2n + 16mn^2 \\ & = 8mn(3m+2n) \end{aligned}$$

$$\begin{aligned} \text{e)} \quad & 12a^2b^2 + 18a^3b^2 \\ & = 6a^2b^2(2+3a) \end{aligned}$$

$$\begin{aligned} \text{f)} \quad & -28x^2y^3 - 35x^3y^2 \\ & = -7x^2y^2(4y-5x) \end{aligned}$$

$$\begin{aligned} \text{g)} \quad & 3w^2 - 7w^3 + 4w \\ & = w(3w-7w^2+4) \end{aligned}$$

$$\begin{aligned} \text{h)} \quad & -2x^5 + 4x^2 - 6x + 2x^3 \\ & = -2x(x^4 - 2x + 3 - x^2) \end{aligned}$$

$$\begin{aligned} \text{i)} \quad & 8x^2 - 12x^4 + 16 \\ & = 4(2x^2 - 3x^4 + 4) \end{aligned}$$

$$\begin{aligned} \text{j)} \quad & 5ab^2 + 10ab - 15a^2b \\ & = 5ab(b+2-3a) \end{aligned}$$

$$\begin{aligned} \text{k)} \quad & 51x^2y + 39xy^2 - 72xy \\ & = 3xy(17x+13y-24) \end{aligned}$$

$$\begin{aligned} \text{l)} \quad & 9m^4n^2 - 6m^3n^3 + 12m^2n^4 \\ & = 3m^2n^2(3m^2 - 2mn + 4n^2) \end{aligned}$$

$$\begin{aligned} \text{m)} \quad & 5y - 10 \\ & = 5(y-2) \end{aligned}$$

$$\begin{aligned} \text{n)} \quad & 8m + 24 \\ & = 8(m+3) \end{aligned}$$

$$\begin{aligned} \text{o)} \quad & 6 + 12x^2 \\ & = 6(1+2x^2) \end{aligned}$$

$$\begin{aligned} \text{p)} \quad & -35a + 10a^2 \\ & = -5a(7-5a) \end{aligned}$$

$$\begin{aligned} \text{q)} \quad & 49b^2 - 7b^3 \\ & = 7b^2(7-b) \end{aligned}$$

$$\begin{aligned} \text{r)} \quad & -35z^2 - 14z^6 \\ & = -7z^2(5+2z^4) \end{aligned}$$

$$\begin{aligned} \text{s)} \quad & 3x^2 + 12x - 6 \\ & = 3(x^2 + 4x - 2) \end{aligned}$$

$$\begin{aligned} \text{t)} \quad & 3x^2 + 5x^3 + x \\ & = x(3x + 5x^2 + 1) \end{aligned}$$

$$\begin{aligned} \text{u)} \quad & a^3 + 9a^2 - 3a \\ & = a(a^2 + 9a - 3) \end{aligned}$$

$$\begin{aligned} \text{v)} \quad & 3x^2 + 6x^3 - 12x \\ & = 3x(x+2x^2-4) \end{aligned}$$

$$\begin{aligned} \text{w)} \quad & 16y^2 - 32y + 24y^3 \\ & = 8y(2y-4+3y^2) \end{aligned}$$

$$\begin{aligned} \text{x)} \quad & 8x^2y - 32xy^2 + 16x^2y^2 \\ & = 8xy(x-4y+2xy) \end{aligned}$$

$$\begin{aligned} \text{y)} \quad & 6f^1 - 3f + 12 \\ & = 3(2f^1 - f + 4) \end{aligned}$$

$$\begin{aligned} \text{z)} \quad & 5y^3 + 6y^2 + 3y \\ & = y(5y^2 + 6y + 3) \end{aligned}$$

$$\begin{aligned} \text{aa)} \quad & 16x + 32x^2 + 48x^3 \\ & = 16x(1+2x+3x^2) \end{aligned}$$

$$\begin{aligned} \text{bb)} \quad & 12y^4 - 12y^2 + 24y^3 \\ & = 12y^2(y^2 - 1 + 2y) \end{aligned}$$

$$\begin{aligned} \text{cc)} \quad & -9a^4 + 7a^2 + 18a \\ & = -a(9a^3 - 7a - 18) \end{aligned}$$

$$\begin{aligned} \text{dd)} \quad & 10z^3 - 15z^2 + 30z \\ & = 5z(2z^2 - 3z + 6) \end{aligned}$$

$$\begin{aligned} \text{ee)} \quad & 25xy + 15x^2 \\ & = 5x(5y + 3x) \end{aligned}$$

$$\begin{aligned} \text{ff)} \quad & 14m^2n - 21mn^3 \\ & = 7mn(2m - 3n^2) \end{aligned}$$

$$\begin{aligned} \text{gg)} \quad & 9a^2b^3 - 12a^2b^2 \\ & = 3a^2b^2(3b - 4) \end{aligned}$$

$$= 5x(5y + 3x)$$

$$= 7mn(2m - 3n^2)$$

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

$$\begin{aligned} \text{hh) } & 4x^2y - 16xy^2 \\ & = 4xy(x - 4y) \end{aligned}$$

$$\begin{aligned} \text{ii) } & 12p^2q + 18pq^2 \\ & = 2pq(6p + 9q) \end{aligned}$$

$$\begin{aligned} \text{jj) } & 27m^3n^2 - 15m^2n^3 \\ & = 3m^2n^2(9m - 5n) \end{aligned}$$

$$\begin{aligned} \text{kk) } & 10a^3b^2 + 15a^2b^4 - 5a^2b^2 \\ & = 5a^2b^2(2a + 3b^2 - 1) \end{aligned}$$

$$\begin{aligned} \text{ll) } & 18a^2bc - 6abc + 30abc^2 - 24ab^2c^2 \\ & = 6abc(3a - 1 + 5c - 4bc) \end{aligned}$$

$$\begin{aligned} \text{mm) } & 20x^2y - 15x^2y^2 + 25x^3y^2 \\ & = 5x^2y(4 - 3y + 5x) \end{aligned}$$

$$\begin{aligned} \text{nn) } & 7a^3b^3 + 14a^2b^2 - 21ab^2 \\ & = 7ab^2(a^2b + 2a - 3) \end{aligned}$$

$$\begin{aligned} \text{oo) } & 8x^4y^4 - 16x^3y^3 + 32x^2y^2 \\ & = 8x^2y^2(x^2y^2 - 2xy + 4) \end{aligned}$$

$$\begin{aligned} \text{pp) } & -12mn^2 - 8mn - 20m^2n \\ & = -4mn(3n^2 + 2 + 5m) \end{aligned}$$