

Exercice 1**Factoriser les expressions suivantes**

$$\begin{array}{ll} A = 6x + 6y & ;; \quad B = ab - 5a \\ C = 5 + 5x & ;; \quad D = 15x + 40y \\ E = 4x + 5x^2 & ;; \quad F = 56 + 8y \end{array}$$

Solution de l'exercice**Exercice 2****Développer les expressions suivantes puis simplifier les écritures.**

$$\begin{array}{ll} A = 3 \times (9 - 2x) & ;; \quad B = (6x - 35) \times 8 \\ C = 4x \times (5 + 9x) & ;; \quad D = (9y + x)3 \\ E = 6x \times (x + 6x^2 - y) & ;; \quad F = xy \times (x^2 - 6y^5) \end{array}$$

Solution de l'exercice**Exercice 3****Développer et réduire si possible les expressions algébriques suivantes**

$$\begin{array}{l} A = (x + 5) \times (x + 2) \\ B = (x + 4) \times (7x^2) \\ C = (4x - 5) \times (7x + 3x) \\ D = (x + 4)^2 \\ E = (7x - 2)^2 \\ F = (3x - 7) \times (7x + 3) \end{array}$$

Solution de l'exercice**Exercice 4****Développer et réduire chacune des expressions algébriques:**

$$\begin{array}{l} A = (4x + 3)(7x - 2) - 2x \\ B = (x + 3)(2x - 1) + (x - 1) \\ C = x + 5(2x - 3) + 8(3 - 2x) \\ D = 2(2 + x) - 5(2x - 3) \end{array}$$

Solution de l'exercice**Exercice 5****Réduire les expressions suivantes:**

$$\begin{array}{l} A = 4x^2 - 5x + 9 - 3x - 7x^2 - 2 \\ B = -3 + 4x - 9x^2 + 5x - 2x^2 + 6 \\ C = 13x - x^2 + 12 - 7x + 3x^2 - 4 \\ D = 3x - 4 - 7x - 2 + 4x - 6 + x^2 \\ E = 2x^2 - 4x + 10 - x^2 + 4x - 5 \\ F = -7 + 2x + 10x^2 - 5x + 3x^2 - 2 \end{array}$$

Exercice 6**Développer et réduire chacune des expressions algébriques:**

$$\begin{array}{ll} A = (x + 3)^2 & ;; \quad B = (2x + 3)^2 \\ C = \left(x + \frac{2}{7}\right)^2 & ;; \quad D = \left(\frac{1}{3} + x\right)^2 \\ E = \left(2x - \frac{1}{4}\right)^2 & ;; \quad F = (x - 4)^2 \\ G = (5 - 3x)^2 & ;; \quad H = (3x - 2)^2 \\ I = \left(x - \frac{1}{2}\right)^2 & ;; \quad J = (3 + 5x)(3 - 5x) \\ K = (2x - 3)(2x + 3) & ;; \quad L = (7 - 11x)^2 \\ M = \left(x + \frac{2}{5}\right)\left(x - \frac{2}{5}\right) & ;; \quad N = (x + 4)(x - 4) \end{array}$$

Solution de l'exercice**Exercice 7****Supprimer les parenthèses, puis réduire chaque expression**

$$\begin{array}{l} X_1 = 70 - (x + 10) \\ X_2 = -(10 + x) + (3x + 1) \\ X_3 = (x^2 - 3x) - (6x^2 + 3x - 1) \\ X_4 = -(3 - x + 2x^2) + (-4x + 3x^2 - 10) \\ X_5 = x - 4 - (2 + x) + (x + 5) \\ X_6 = -(x - 8) + (x - 6) - (7 - x) \\ X_7 = (5x^2 + 5x - 5) - (-3x^2 + 9x - 12) \end{array}$$

Solution de l'exercice**Exercice 8****Factoriser les expressions suivantes**

$$\begin{array}{ll} A = 6a + 8ax & ;; \quad B = x^2 + x \\ C = 4a^2 - a & ;; \quad D = xy - yz + y \\ E = 3x^2y - 5x^2y - x^2y \\ F = 16x^3 - 8x^2 \\ G = 5abc - 8abc + 16bc \\ H = x - yx + x^2y \\ K = 36a - 24b + 48c - 12 \\ L = 14xy - 21xyz + 28xy \end{array}$$