

**Exercice 1** Développer et réduire les expressions suivantes :

$$A = (4x - 3)^2$$

$$A = (4x)^2 - 2 \times 4x \times 3 + 3^2$$

$$\boxed{A = 16x^2 - 24x + 9}$$

$$B = \left(\frac{5}{4} - 3x\right)^2$$

$$B = \left(\frac{5}{4}\right)^2 - 2 \times \frac{5}{4} \times 3x + (3x)^2$$

$$B = \left(\frac{25}{16}\right) - \frac{15}{2}x + 9x^2$$

$$\boxed{B = 9x^2 - \frac{15}{2}x + \frac{25}{16}}$$

$$E = 4x - (x + 7)^2$$

$$E = 4x - (x^2 + 14x + 49)$$

$$E = 4x - x^2 - 14x - 49$$

$$\boxed{E = -x^2 - 10x - 49}$$

$$F = 3(2 + 6x)^2$$

$$F = 3(4 + 24x + 36x^2)$$

$$F = 12 + 72x + 108x^2$$

$$\boxed{F = 108x^2 + 72x + 12}$$

$$G = 3 - (8 - x)^2$$

$$G = 3 - (64 - 16x + x^2)$$

$$G = 3 - 64 + 16x - x^2$$

$$\boxed{G = -x^2 + 16x - 61}$$

$$H = 4 - 2(x - 3)^2$$

$$H = 4 - 2(x^2 - 6x + 9)$$

$$H = 4 - 2x^2 + 12x - 18$$

$$\boxed{H = -2x^2 + 12x - 14}$$

$$I = (1 - x)(x + 5)^2$$

$$I = (1 - x)(x^2 + 10x + 25)$$

$$I = x^2 + 10x + 25 - x^3 - 10x^2 - 25x$$

$$\boxed{I = -x^3 - 9x^2 - 15x + 25}$$

**Exercice 2** Développer et réduire les expressions suivantes :

$$J = (2 - 5x)(2 + 5x)$$

$$J = 2^2 - (5x)^2$$

$$\boxed{J = 4 - 25x^2}$$

$$K = \left(\frac{4}{3} - 5x\right) \left(\frac{4}{3} + 5x\right)$$

$$K = \left(\frac{4}{3}\right)^2 - (5x)^2$$

$$\boxed{K = \frac{16}{9} - 25x^2}$$

$$N = 2(3 + 8x)(3 - 8x)$$

$$N = 2(3^2 - (8x)^2)$$

$$N = 2(9 - 64x^2)$$

$$\boxed{N = 18 - 128x^2}$$