

$$57 \quad (a+b)^2 = a^2 + 2ab + b^2$$

$$\begin{aligned} 2) \quad A &= (x+5)^2 \\ &= (x^2 + 2 \times x \times 5 + 5^2) \quad \text{avec } a=x \text{ et } b=5 \\ &= x^2 + 10x + 25 \end{aligned}$$

$$\begin{aligned} B &= (x+7)^2 \\ &= x^2 + 2 \times x \times 7 + 7^2 \quad \text{avec } a=x \text{ et } b=7 \\ &= x^2 + 14x + 49 \end{aligned}$$

$$\begin{aligned} C &= (3x+8)^2 \\ &= (3x)^2 + 2 \times 3x \times 8 + 8^2 \quad \text{avec } a=(3x) \text{ et } b=8 \\ &= 9x^2 + 48x + 64 \end{aligned}$$

$$3) \text{ pour } x = -2$$

$$\begin{aligned} A &= (-2+5)^2 \\ &= 3^2 \\ &= 9 \end{aligned}$$

$$\begin{aligned} B &= (-2+7)^2 \\ &= 5^2 \\ &= 25 \end{aligned}$$

$$\begin{aligned} C &= (2 \times (-2) + 8)^2 \\ &= 4^2 \\ &= 16 \end{aligned}$$

$$58 \quad (a-b)^2 = a^2 - 2ab + b^2$$

$$\begin{aligned} 2) \quad A &= (x-4)^2 \\ &= x^2 - 2 \times x \times 4 + 4^2 \quad \text{avec } a=x \text{ et } b=4 \\ &= x^2 - 8x + 16 \end{aligned}$$

$$\begin{aligned} B &= (x-9)^2 \\ &= x^2 - 2 \times x \times 9 + 9^2 \quad \text{avec } a=x \text{ et } b=9 \\ &= x^2 - 18x + 81 \end{aligned}$$

$$\begin{aligned} C &= (4x-5)^2 \\ &= (4x)^2 - 2 \times 4x \times 5 + 5^2 \quad \text{avec } a=(4x) \text{ et } b=5 \\ &= 16x^2 - 40x + 25 \end{aligned}$$

$$3) \text{ pour } x = \frac{1}{2}$$

$$\begin{aligned} A &= \left(\frac{1}{2} - 4\right)^2 \\ &= \left(\frac{1}{2} - \frac{8}{2}\right)^2 \\ &= \left(-\frac{7}{2}\right)^2 \\ &= \frac{49}{4} \end{aligned}$$

$$\begin{aligned} B &= \left(\frac{1}{2} - 9\right)^2 \\ &= \left(-\frac{17}{2}\right)^2 \\ &= \frac{289}{4} \end{aligned}$$

$$\begin{aligned} C &= \left(4 \times \frac{1}{2} - 5\right)^2 \\ &= (2 - 5)^2 \\ &= (-3)^2 \\ &= 9 \end{aligned}$$

$$\begin{aligned}
 59) \quad L &= (4x+3)^2 - (4x-3)^2 \\
 &= (4x)^2 + 2 \times (4x) \times 3 + 3^2 - ((4x)^2 - 2 \times 4x \times 3 + 3^2) \\
 &= 16x^2 + 24x + 9 - (16x^2 - 24x + 9) \\
 &= 16x^2 + 24x + 9 - 16x^2 + 24x - 9 \\
 &= 48x
 \end{aligned}$$

$$2) \text{ Pour } x = -\frac{1}{8} \quad L = 48 \times \left(-\frac{1}{8}\right) = -6$$

$$\begin{aligned}
 76 \quad A &= (3x+2)(x-5) + (3x+2)(2x+1) \\
 &= (3x+2) [(x-5) + (2x+1)] \\
 &= (3x+2)(x-5+2x+1) \\
 &= (3x+2)(3x-4)
 \end{aligned}$$

$$\begin{aligned}
 B &= (4x-3)(2x+5) + (4x-3)(7x+1) \\
 &= (4x-3) [(2x+5) + (7x+1)] \\
 &= (4x-3)(2x+5+7x+1) \\
 &= (4x-3)(9x+6) \\
 &= 3(4x-3)(3x+2)
 \end{aligned}$$

$$\begin{aligned}
 C &= (5x-2)(6x+1) + (5x-2)(4x-9) \\
 &= (5x-2) [(6x+1) + (4x-9)] \\
 &= (5x-2)(6x+1+4x-9) \\
 &= (5x-2)(10x-8) \\
 &= 2(5x-2)(5x-4)
 \end{aligned}$$

$$\begin{aligned}
 77 \quad D &= (-5x+3)(2x-7) - (4x-1)(-5x+3) \\
 &= (-5x+3) [(2x-7) - (4x-1)] \\
 &= (-5x+3)(2x-7-4x+1) \\
 &= (-5x+3)(-2x-6) \\
 &= (-2)(-5x+3)(x+3)
 \end{aligned}$$

$$\begin{aligned} E &= (5x-6)(7x+3) - (5x-6)(x-4) \\ &= (5x-6) [(7x+3) - (x-4)] \\ &= (5x-6)(7x+3 - x + 4) \\ &= (5x-6)(6x+7) \end{aligned}$$

$$\begin{aligned} F &= (3x-10)(7x+2) - (3x-10)(5x-1) \\ &= (3x-10) [(7x+2) - (5x-1)] \\ &= (3x-10)(7x+2 - 5x + 1) \\ &= (3x-10)(2x+3) \end{aligned}$$