

IV) Factorisations :

$$A = x^2 - 9 - (2x - 6)x + (x - 3)^2$$

$$B = (x - 11)^2 + (33 - 3x)(x + 2)$$

$$C = (x^4 - 1)(x^2 + 2x + 1)$$

$$D = -0,3(2x - 3)^2 + 0,7x(1,5 - x)$$

$$E = 0,25x^2 - x + 1$$

$$F = x^2 - 3x + 2$$

$$G = -9x^2 - 6x - 1$$

$$H = -10 + (x + 5)^2 - 2x$$

$$I = -2x^2 + x + 1$$

$$J = x^2 + 2\sqrt{2}x + 2$$

$$K = x^2 - 2$$

$$L = 4x^2 - 12x + 8$$

$$M = x - (3x - 1)^3 + 2x - 1$$

$$N = (2x - 1)x + (1 - 2x)^2 + \left(x - \frac{1}{2}\right)\left(x - \frac{3}{2}\right)$$

$$O = x^2\left(1 + \frac{1}{x}\right) + 2(x + 1)^2$$

$$P = x^2 - (x + 1)^2$$

$$Q = 5(1 - x)^2 - 45x^2$$

$$R = (x + 1)^2 - 2(x + 1) + 1$$

$$S = x^5 + 4x^4 + 4x^3$$

$$T = (5x - 1)(x + 3) + 3(25x^2 - 1)$$

$$U = 49 - 28x + 4x^2 + (7 - 2x)(5 - 3x)$$

$$V = x^2(x - 4) + 2x(x - 4) + x - 4$$

$$W = x^2 + 6x + 5$$

$$X = 3x^2 + 7x + 2$$

$$Y = -2x^2 - x + 1$$

$$Z = 2x^2 - 3x + 1$$

V) Équations :

$$(H) : x^2 - \frac{1}{4} = \frac{-3}{16}$$

$$(I) : (x - 5)(x + 1) - (1 - x^2) = 0$$

$$(J) : (2x + 1)(x + 3) - \left(x + \frac{1}{2}\right) = 0$$

$$(K) : 2x^2 - x - 1 = 0$$

$$(L) : x\sqrt{2} - \frac{1}{\sqrt{2}} + x(2x - 1) = 0$$

$\textcircled{\text{IV}}$ $A = (x-3) \times 0 = 0$; $B = (11-x)(2x+17)$; $C = (x^2-1)(x^2+1)(x+1)^2$
 $\quad\quad\quad = (x+1)^3(x-1)(x^2+1)$
 $D = (2x-3)(-0,95x+0,9)$; $E = 0,25(x-2)^2$; $F = (x-2)(x-1)$
 $G = -(3x+1)^2$; $H = (x+5)^2 - 2(x+5) = (x+5)(x+3)$; $I = (1-x)(2x+1)$
 $J = (x+\sqrt{2})^2$; $K = (x-\sqrt{2})(x+\sqrt{2})$; $L = 4(x-2)(x-1)$
 $M = (3x-1)(-3x+2)(3x)$; $N = \frac{7}{4}(2x-1)^2$; $O = (x+1)(3x+2)$
 $P = -2(x-\frac{1}{2})$; $Q = 5(2x+1)(-4x+1)$; $R = x^2$; $S = x^3(x+2)^2$
 $T = 2(5x-1)(8x+3)$; $U = (2x-7)(5x-12)$; $V = (x-4)(x+1)^2$
 $W = (x+1)(x+5)$; $X = (3x+1)(x+2)$; $Y = (x+1)(-2x+1)$
 $Z = (x-1)(2x-1)$

$\textcircled{\text{V}}$ (H): $S = \{-\frac{1}{4}; \frac{1}{4}\}$
 (I): $S = \{-1; 3\}$
 (J): $S = \{-\frac{5}{2}; -\frac{1}{2}\}$
 (K): $S = \{-\frac{1}{2}; 1\}$
 (L): $S = \{-\frac{\sqrt{2}}{2}; \frac{1}{2}\}$