$x^2+7x+12=(x+3)(x+4)$

$x^2-3x-40$

x^2-1

$(x+1)(x-1)$

$A^2-B^2=(A+B)(A-B)$

I. MISE EN ÉVID.

II. ID. REM.

III. TRINÔME

$4x^2+8x+4=A^2+2AB+B^2$

$=(2x+2)^2$

$2x^2-9x-5$

$5x^2-3x-2$

$5x^2-3x-1$

$\Delta=9+40=49=7^2$

$\frac{3\pm7}{10}$ $\nearrow 1$ $\searrow -\frac{2}{5}$

$5(x-1)(x+\frac{2}{5})=(x-1)(5x+2)$

$\Delta=9+20=29$

$\frac{3\pm\sqrt{29}}{10}$

0,84

-0,24

$(5x-4,2)(x+0,24)$

$5(x-0,84)(x+0,24)$

$a(x-x_1)(x-x_2)$

$5\left(x-\frac{3+\sqrt{29}}{10}\right)\left(x+\frac{3-\sqrt{29}}{10}\right)$

$\left(5x-5\cdot\frac{3+\sqrt{29}}{10}\right)\left(x+\frac{3-\sqrt{29}}{10}\right)$

$$x^2 - 1 = x^2 + 0x - 1$$

$$a = 1 \quad b = 0 \quad c = -1$$

$$\Delta = b^2 - 4ac = 0^2 - 4 \cdot 1 \cdot (-1) = 4$$

$$x_1 = \frac{-0 + \sqrt{4}}{2} \qquad x_2 = \frac{-0 - \sqrt{4}}{2}$$

$$= 1 \qquad = -1$$

$$x^2 - 1 = 1 \cdot (x - 1)(x - (-1))$$

$$= (x - 1)(x + 1)$$

$$x^2+7x+12 = (x+3)(x+4)$$

$$3+4 \quad 3\cdot 4 = x^2+4x+3x+3\cdot 4$$

$$= x^2+7x+12$$

$$x^2+7x+12$$

$$\Delta = 49-48 = 1$$

$$x_1 = \frac{-7+1}{2} = -3$$

$$x_2 = \frac{-7-1}{2} = -4$$

$$1(x-(-3))(x-(-4)) = (x+3)(x+4)$$

$$2x^2+bx+c = 2(x-x_1)(x-x_2)$$

$x^2 - 3x - 40$

$(x+5)(x-8)$

40

$1 \cdot 40$

$2 \cdot 20$

$4 \cdot 10$

$5 \cdot 8$

$x^2 - 3x - 40 = (x-8)(x-(-5)) = (x-8)(x+5)$

$\Delta = 9 - 4 \cdot 1 \cdot (-40) = 9 + 160 = 169$

$x = \frac{3 \pm \sqrt{169}}{2} = \begin{cases} 8 \\ -5 \end{cases}$

$$2x^2 - 9x - 5 = (2x+1)(x-5)$$

$$2(x+\tfrac{1}{2})$$

$$= 2x^2 - 10x + x - 5$$

$$= 2x^2 - 9x - 5$$

$$2(x-x_1)(x-x_2)$$

$$x_{1,2} = \frac{9 \pm \sqrt{121}}{4}$$

$$\frac{20}{4} = 5$$

$$-\frac{2}{4} = -\frac{1}{2}$$

$$\Rightarrow 2x^2 - 9x - 5 = 2(x-5)(x+\tfrac{1}{2})$$

$$ax^2+bx+c = a\left(x - \underbrace{\frac{-b+\sqrt{\Delta}}{2a}}_{x_1}\right)\left(x - \underbrace{\frac{-b-\sqrt{\Delta}}{2a}}_{x_2}\right)$$