

# Ins rtion des Equations Math matique

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## 1 Exercise 1

$$x = y + z \tag{1}$$

$$f(x) = x^2 \tag{2}$$

$$f(x) = \sum_{k=1}^n xi \tag{3}$$

$$f(x) = \int_1^n xi \tag{4}$$

## 2 Exercice 2 : Energy consumption model

$$E_{Tx}(l, d) = \begin{cases} 1E_{elec} + 1\varepsilon_{\beta}d^2, & d < d_0 \\ 1E_{elec} + 1\varepsilon_{mp}d^4, & d \geq d_0 \end{cases} \tag{5}$$

$$E_{Tx}(1) = 1E_{elec} \tag{6}$$

$$d_0(1) = \sqrt{\frac{\epsilon_{fs}}{\epsilon_{mp}}} \tag{7}$$

### 3 Exercice 3 : Matrice

$$\begin{matrix} x & y \\ z & f \end{matrix} \quad (8)$$

$$\begin{pmatrix} x & y \\ z & f \end{pmatrix} \quad (9)$$

$$\begin{bmatrix} x & y \\ z & f \end{bmatrix} \quad (10)$$

$$\begin{vmatrix} x & y \\ z & f \end{vmatrix} \quad (11)$$

$$\left\| \begin{matrix} x & y \\ z & f \end{matrix} \right\| \quad (12)$$

$$\left\{ \begin{matrix} x & y \\ z & f \end{matrix} \right\} \quad (13)$$

$$\begin{bmatrix} a_{11} & \cdots & \cdots & a_{1n} \\ \vdots & a_{22} & \cdots & a_{2n} \\ \vdots & \cdots & \ddots & \vdots \\ \vdots & \cdots & \ddots & a_{nn} \end{bmatrix} \quad (14)$$