

$$\begin{array}{c} \sharp \\ \parallel \\ \hline \end{array} \begin{array}{c} 1 \\ \parallel \\ \hline \end{array} \begin{array}{c} \blacktriangle \\ \parallel \\ \hline \end{array} \begin{array}{c} 1 \\ \parallel \\ \hline \end{array} = \begin{array}{c} \sharp \\ \parallel \\ \hline \end{array} \begin{array}{c} \blacktriangle \\ \parallel \\ \hline \end{array} \begin{array}{c} 1 \\ \parallel \\ \hline \end{array}$$

 d

$$\begin{array}{c} \sharp \\ \text{1} \end{array} \begin{array}{c} 2 \\ \text{1} \end{array} = \begin{array}{c} \sharp \\ \text{1} \end{array} \begin{array}{c} \text{1} \\ \text{1} \end{array} \begin{array}{c} \text{1} \\ \text{1} \end{array} \begin{array}{c} \sharp \\ \text{1} \end{array} \begin{array}{c} \text{1} \\ \text{1} \end{array}$$

$$d \underbrace{1^j \otimes_j 1}_{\text{}} = \underbrace{1 \otimes 1^j - 1^j \otimes 1}_{\text{}} \otimes \overline{1 \otimes_j 1 - \underbrace{j}_{\text{}} 1 \otimes 1}$$

$$\overline{d\mathbf{1}d\mathbf{1}'} = \overline{\mathbf{1}\mathbf{x}\mathbf{1} - \mathbf{1}\mathbf{x}\mathbf{1}} \mathbf{x} \overline{\mathbf{1}\mathbf{x}\mathbf{1}' - \mathbf{1}'\mathbf{x}\mathbf{1}} = \underline{d\mathbf{1}} \mathbf{x} \underline{d\mathbf{1}'}$$

$$1\underline{d1} = 1\underline{181} - \underline{181} = 181 - \underline{1181}$$

$$\Rightarrow \text{LHS} = d \overbrace{1\mathbf{x}1 - 11\mathbf{x}1} = \underbrace{1\mathbf{x}1 - 1\mathbf{x}1}_{\mathbf{x}} \overbrace{1\mathbf{x}1 - 1\mathbf{x}1} - \overbrace{1\mathbf{x}11 - 11\mathbf{x}1}_{\mathbf{x}} \underbrace{1\mathbf{x}1 - 1\mathbf{x}1}_{=0} = \text{RHS}$$

$$\begin{array}{c} \sharp \\ \parallel \\ \parallel \end{array} \begin{array}{c} 1 \\ \parallel \\ \parallel \end{array} = \begin{array}{c} \sharp \\ \parallel \\ \parallel \end{array} \begin{array}{c} 1 \\ \parallel \\ \parallel \end{array}$$

 d
$$d^2$$

$$\frac{\#}{1} \quad \frac{2}{1}$$

 d