a)
$$\partial \left(\begin{array}{c} \begin{array}{c} \\ \\ \\ \end{array} \right) = 0$$
b)
$$d \left(\begin{array}{c} \\ \\ \end{array} \right) = \left(\begin{array}{c} \\ \\ \end{array} \right) + \left(\begin{array}{c} \\ \\ \end{array} \right) \\ \partial \left(\begin{array}{c} \\ \\ \end{array} \right) = \left(\begin{array}{c} \\ \\ \end{array} \right) - \left(\begin{array}{c} \\ \\ \end{array} \right)$$

$$\partial \left(\begin{array}{c} \\ \\ \end{array} \right) = \left(\begin{array}{c} \\ \\ \end{array} \right) + \left(\begin{array}{c} \\ \\ \end{array} \right) + \left(\begin{array}{c} \\ \\ \end{array} \right)$$

$$\partial \left(\begin{array}{c} \\ \\ \end{array} \right) = \left(\begin{array}{c} \\ \\ \end{array} \right) + \left(\begin{array}{c} \\ \\ \end{array} \right) = 0$$