Integrabilní distribuce – cvičení

Najděte integrály distribuce $\Xi = [\![\xi, \eta]\!]$ na $\mathbb{R}^3$, je-li

a) $\qquad \xi = xyz\dfrac{\partial}{\partial x} + xyz\dfrac{\partial}{\partial y} + \dfrac{\partial}{\partial z} \qquad$ a $\qquad \eta = \dfrac{\partial}{\partial x} + \dfrac{\partial}{\partial y} - \dfrac{\partial}{\partial z}$,

b) $\qquad \xi = x\dfrac{\partial}{\partial x} + x\dfrac{\partial}{\partial y} + x\dfrac{\partial}{\partial z} \qquad$ a $\qquad \eta = y\dfrac{\partial}{\partial x} + y\dfrac{\partial}{\partial y} + z\dfrac{\partial}{\partial z}$,

c) $\qquad \xi = xy\dfrac{\partial}{\partial x} + xy\dfrac{\partial}{\partial y} + x\dfrac{\partial}{\partial z} \qquad$ a $\qquad \eta = \dfrac{\partial}{\partial x} + \dfrac{\partial}{\partial y} + \dfrac{\partial}{\partial z}$,

d) $\qquad \xi = \dfrac{\partial}{\partial x} + x^2\dfrac{\partial}{\partial y} + \dfrac{\partial}{\partial z} \qquad$ a $\qquad \eta = \dfrac{\partial}{\partial x} + \dfrac{\partial}{\partial y} + \dfrac{\partial}{\partial z}$,

e) $\qquad \xi = \dfrac{\partial}{\partial x} + \dfrac{\partial}{\partial y} + \dfrac{\partial}{\partial z} \qquad$ a $\qquad \eta = x\dfrac{\partial}{\partial x} + x^2\dfrac{\partial}{\partial y} + x^2\dfrac{\partial}{\partial z}$,

f) $\qquad \xi = -y\dfrac{\partial}{\partial x} + x^2\dfrac{\partial}{\partial y} \qquad$ a $\qquad \eta = -z\dfrac{\partial}{\partial y} + y\dfrac{\partial}{\partial z}$,

g) $\qquad \xi = -y\dfrac{\partial}{\partial x} + x\dfrac{\partial}{\partial y} \qquad$ a $\qquad \eta = (z+1)^2\dfrac{\partial}{\partial y} + y\dfrac{\partial}{\partial z}$.