ADDITIVITÀ DELL'ENTROPIA

$$\sigma(xy) = f(\sigma(x), \sigma(y))$$
$$\frac{\partial f}{\partial x_1} = g(x_1)$$
$$\frac{\partial f}{\partial x_2} = g(x_2)$$
$$f = G(x_1) + c(x_2)$$
$$f = G(x_2) + c(x_1)$$
$$f = G(x_1) + G(x_2)$$
$$\sigma(xy) = G(\sigma(x)) + G(\sigma(y))$$
$$\frac{\partial \sigma(xy)}{\partial x}|_{y=1} = \frac{d\sigma(x)}{dx} = \frac{dG(x_1)}{dx_1}\frac{dx_1}{dx} = \frac{dG(\sigma(x))}{d\sigma}\frac{d\sigma}{dx}$$
$$\frac{dG(\sigma)}{d\sigma} = 1$$
$$G(\sigma) = \sigma + c$$
$$\sigma(xy) = \sigma(x) + \sigma(y) + 2c$$
$$2c = -\sigma(1)$$
$$\sigma(1) = \sigma(1) + \sigma(1) + \sigma(1) + 3c$$
$$3c = -2\sigma(1)$$
$$2c = \frac{3}{2}c$$
$$c = 0$$