Product and ratio of two 'uniform numbers'

Proposed exercices

As examples of application of the general formula for the propagation, evaluate the pdf's of

 $Y_1 = X_1 \cdot X_2$ $Y_2 = X_1 / X_2$

Check the result by Monte Carlo sampling (or, <u>better</u>, do it first by MC, in order to have an idea of what the result shoud be...)