True/False - No explanation needed. (1pt for correct, 0pt - no answer, -1pt - incorrect)

1. The PDF of a continuous RV is always continuous in the range of that RV. True/False

2. The maximum value of a PDF cannot exceed 1. True/False

Problems - Need justification. No justification means **zero**!

1. (10pts) Given a function $f(x) = cx(1-x)$ for $0 \leq x \leq 2$ and $f(x) = 0$ otherwise.
   a) Find c so that $f(x)$ is a PDF of a RV X.
   b) Find CDF of X.