

*Stat 134: Section 14*

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*Problem 1*

Suppose  $U$  has uniform  $(0, 1)$  distribution. Let  $W = -\log U$ . Find the density of  $W$ .

Do you recognize the distribution of  $W$ ?

*Problem 2*

Let  $Z$  be a standard normal random variable. Find formulae for the densities of each of the following random variables:

- a.  $|Z|$ ;
- b.  $1/Z^2$ .

*Ex 4.4.10 in Pitman's Probability*