A certain type of glass is manufactured. A sample of 31 sheets of glass are tested for tensile strength and the load (in mPa) at which they failed was recorded. The data are in the dataframe `windowstrength`. (This is in the Stob package.) The variable is named `ksi` under the mistaken impression that those are the units! Draw a density histogram of the variable and describe the distribution below:

1. Fit a Weibull distribution to the data. What are your fitted values of $\alpha$ and $\beta$?

2. According to the model
   
   (a) What percentage of the population will have breaking strength less than 40 mPa?
   
   (b) What percentage of the population will have breaking strength less than 15 mPa?
   
   (c) What percentage of the population will have breaking strength greater than 30 mPa?

3. Compare each of the three answers above to the actual proportion of the sample that fits that description.
   
   (a) What percentage of the sample has breaking strength less than 40 mPa?
   
   (b) What percentage of the sample has breaking strength less than 15 mPa?
   
   (c) What percentage of the sample has breaking strength greater than 30 mPa?

4. Draw a density histogram and superimpose a plot of your fitted Weibull. Using this and the previous part, do you think that the Weibull density is a good fit?