Final first midterm preparation with solutions

1. Write a program that asks the user for a force measured in pound-force (lbf) and prints out the force in Newtons (N). A pound-force is 0.138 254 954 376 Newtons.

2. Write programs that calculate

   a. $$\sum_{i=1}^{11} \frac{i(i+2)}{(i+1)^2}$$

   b. $$\prod_{i=1}^{10} (1 - \frac{i}{i+10})$$

3. Write a **function** guk2gus that takes a volume in UK Gallons and returns the same volume in US liquid Gallons. A US liquid Gallon is 0.83267 UK Gallons.

4. Write a function that changes each of the punctuation marks comma, period, colon, exclamation mark and question mark in a string to an asterisk. The function returns the changed string.

5. Write a function that is given the name of the file. It then prints out each line with three or fewer words. You need to strip the line of white spaces before printing it out.