Homework on Erosion and Isostasy

Due first day of class after Thanksgiving

On page 242 of your book equation 7.11and Figure 7.13 show how much elevation change occurs relative to denudation. This equation assumes a very simple approach to landform erosion using local isostasy.

1. Show how this equation is obtained.
2. Show that if 100 m of mountain are removed the actual elevation drop will only be 15m.
3. What will be the rise of the Moho?
4. Now assume that erosion creates a mountain instead of a flat surface so that the amount of material eroded is the same but that there are symmetric valleys carved down to sea-level. Show that the maximum elevation of the mountains will double. Explain your answer simply