-5

15 POINTS

3. Let ω = **2 3 1 3 2 4 3 2 4 5 1 6 7 5 6 7 4 5 6 7 2 1**, be a **page reference stream** for a given system. You are asked to work with **the Least Frequently Used algorithm** (referred to as the NFU algorithm in our book) below. You must determine the **number of page faults** that will occur for the stream shown above with an **LFU replacement algorithm** for a memory with **3 physical frames** and a memory with **5 physical frames**. (Please use the **grid help sheet** on the next page for this problem.)

A. Assuming the primary memory is initially empty, how **many page faults** will the given reference stream have using the page replacement algorithm **LFU** for :

1. A memory with **3 physical frames** 17 ✓
2. A memory with **5 physical frames** 15

B. In our discussion of **memory objects**, we described some objects as being **anonymous** (e.g. stack objects) and some as being **file based** (e.g. text objects). **Explain how** the pages of an **anonymous** object are **managed differently** from a **file based** object with respect to **page replacement of dirty pages that must be backed up for possible re-use.**

?

Problem #3 continued on the next page ➔