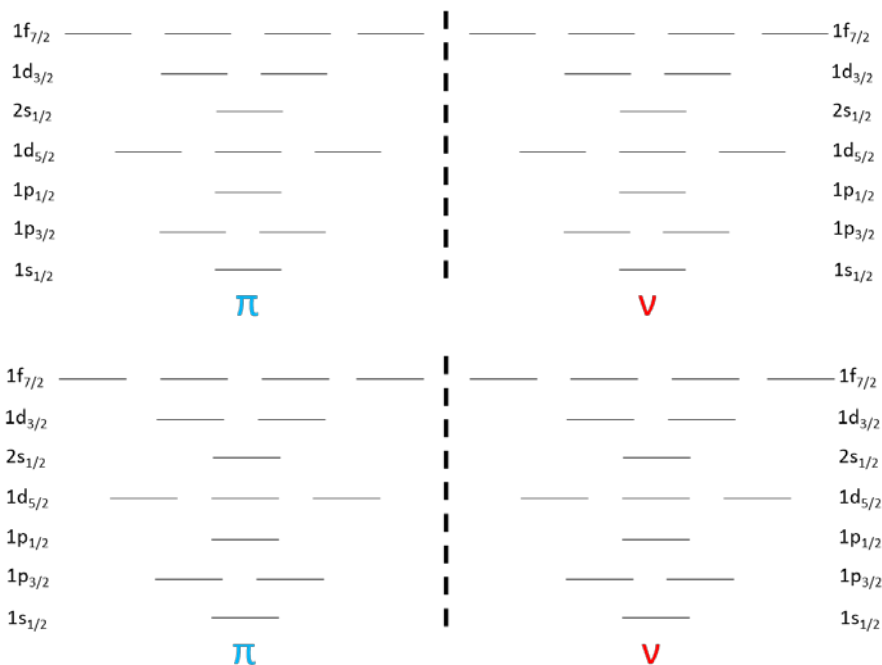


Names: _____

Group Activity 3

Due: In class, September 5th

- Which of the following level designations is non-sensical? Explain what the issue is.
 - $d_{5/2}$
 - $f_{3/2}$
 - $s_{1/2}$
 - $p_{1/2}$
- What was the key breakthrough in shell-model development that resulted in the prediction of the magic numbers above 20?
- Fill-out the single particle levels and, based on this, determine J^π for the ground-state and first two excited states of ^{17}O and ^{39}Ca . Verify your results with the NNDC database.



- The measured magnetic dipole moment for ^{17}O lies directly on one of the Schmidt lines. Which one? Why?