

Names: \_\_\_\_\_  
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PHYS 7501, FS 2021

**Group Activity 8**

**Due:** In class, September 16<sup>th</sup>

1. Write a schematic form of the decay rate as described by the Fermi theory of  $\beta$  decay.  
Which part is primarily responsible for the energy spectrum of  $\beta$ s?
2. Why do you suppose  $\beta$  decay half-lives reach a plateau as the driplines are approached?
3. For which region of the nuclear chart do we expect electron-capture to be appreciable as compared to  $\beta^+$  decay?