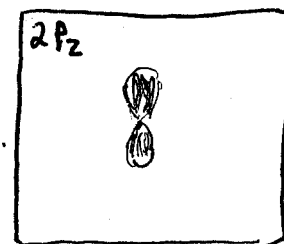
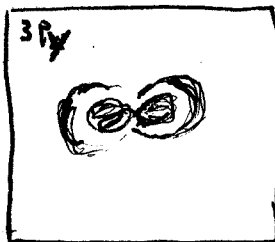
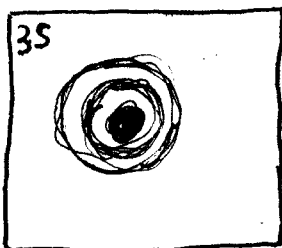


① Fill in the following table

<u>H wavefunction</u>	<u># of radial nodes</u>	<u># of angular nodes</u>
3s	<u>2</u>	<u>0</u>
3d	<u>0</u>	<u>2</u>
5d	<u>2</u>	<u>2</u>
2p	<u>0</u>	<u>1</u>

② sketch a density plot of the following ^{mod square of the} ~~the~~ wavefunctions



③ Order electronic transitions, rotational transitions and vibrational transitions according to increasing energy.

$$\Delta E_{rot} < \Delta E_{vib} < \Delta E_{elec}$$

④ Which molecule is photostable (i.e. won't fall apart under light)

