HW1: Answer Key

1) Table of resonant frequencies in MHz (most common mistake is to leave answer in Hz).

<table>
<thead>
<tr>
<th>Field strength</th>
<th>Resonant frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Tesla</td>
<td>128 MHz</td>
</tr>
<tr>
<td>7 Tesla</td>
<td>296 MHz</td>
</tr>
<tr>
<td>9.4 Tesla</td>
<td>400 MHz</td>
</tr>
</tbody>
</table>

2) Why am I bald, and why is the side of my head mashed in?

I’m bald because hair has trivial water content, and MR images are made from the signal originating in the nuclei of the hydrogens on water molecules.

The headphones I was wearing in the scanner were denting in the skin around my ears.