

BME 51:186 — Homework 7

DUE: December 3, 2004 at start of class

1. A spin-echo pulse sequence has a TE of 100 msec. A new pulse sequence is started 800 msec after MR echo reception. If 256 phase encoding steps are used, find the total image acquisition time.
2. Assume $T_1 = 800$ msec and $T_2 = 100$ msec for brain gray matter and $T_1 = 700$ msec and $T_2 = 90$ msec for brain white matter. For which of the following pulse sequences would white matter appear brighter than gray matter in the image?
 - (a) $TR = 750$ msec, $TE = 20$ msec;
 - (b) $TR = 2000$ msec, $TE = 750$ msec;
 - (c) $TR = 2000$ msec, $TE = 95$ msec;
 - (d) $TR = 1500$ msec, $TE = 200$ msec.
3. Webb 4.3
4. Webb 4.8