1. Calculate the low- and high-temperature expansions for the 2-dim. Ising model for the nearest-neighbour correlation $\langle s_x s_y \rangle$ to orders $e^{-6\beta}$ and β^5 (the latter has been calculated to order β^3 in the notes; remember to use the "character expansion" method! Also note that 'β' is defined differently in low- and high-T expansions.

2. Using the self-duality relation for 2d Ising show that the leading (couple of) orders of the expansion match