$$= \sum_{g_i(x)g_i(x')>0} g_i(x)g_i(x') + \sum_{g_i(x)g_i(x')<0} |g_i(x)g_i(x')| - 2 \cdot \sum_{g_i(x)g_i(x')<0} |g_i(x)g_i(x')|$$