A 8-question quiz contains 2 multiple-choice questions and 6 true-false questions. If each multiple-choice question has 5 possible answers, how many ways can the quiz be answered?

The total number of ways the quiz can be answered is $900$.

Here is the "slick" way to answer this question.

You have 8 slots to fill - 2 MC and 6 TF.

Each MC has 5 poss. ans., say $ABCDE$, and they could possibly be repeated. Each TF has 2 poss. answers, and they could possibly be repeated. Here's the lay-out:

\[
\frac{5 \times 5}{MC_1} \times \frac{2 \times 2 \times 2 \times 2 \times 2 \times 2}{TF_1 TF_2 \ldots TF_6} = 5^2 \times 2^6
\]

\[
= 25 \times 64 = 1600
\]

\[DJ \]

11/19/09.