Exercise: Logic Puzzle (Games Mar 2005)

The nine Muses have pledged their devotion to the three all-powerful gods of Olympus. Three are priestesses of Athena (goddess of wisdom) who always tell the truth, three are priestesses of Ares (discordant god of war) who always lie, and three are priestesses of Aphrodite (goddess of love) who always tell at least one lie and make at least one truthful statement. Each of the nine Muses has made three statements; each statement is entirely true or entirely false. Using these statements, can you tell which Muses serve Athena, which Muses serve Ares and which Muses serve Aphrodite?

Thus spoke Calliope, Muse of Epic Poetry:
A1. I am a priestess of Athena
A2. Thalia is not a priestess of Athena
A3. Urania is a priestess of Athena

Thus spoke Clio, Muse of History:
B1. I am a priestess of Athena.
B2. Erato is not a priestess of Ares.
B3. Terpischore is not a priestess of Athena

Thus spoke Erato, Muse of Lyric Poetry:
C1. I am a priestess of Athena
C2. Melpomene is not a priestess of Athena.
C3. Thalia is not a priestess of Aphrodite.

Thus spoke Euterpe, Muse of Music:
D1. I am a priestess of Athena
D2. Clio is a priestess of Aphrodite
D3. Terpsichore is a priestess of Ares

Thus spoke Melpomene, Muse of Tragedy
E1. I am a priestess of Athena
E2. Euterpe is not a priestess of Athena
E3. Calliope and Urania are both priestesses of Athena

Thus spoke Polyhymnia, Muse of Sacred Poetry
F1. I am a priestess of Athena
F2. Terpsichore is a priestess of Athena
F3. Clio is not a priestess of Athena

Thus spoke Terpsichore, Muse of Dance
G1. I am a priestess of Athena
G2. Polyhymnia is not a priestess of Aphrodite
G3. Thalia is a priestess of the same deity as I am
Thus spoke Thalia, Muse of Comedy
H1. I am a priestess of Athena
H2. Erato and Polyhymnia are not priestesses of Ares
H3. Calliope is not a priestess of Athena

Thus spoke Urania, Muse of Astronomy
I1. I am a priestess of Athena
I2. Euterpe is not a priestess of Aphrodite
I3. Erato is a priestess of Ares