Crystal Systems Logic problem

Directions: Imagine that you you have been given samples of the ten minerals listed in the Mohs Hardness Scale. However, instead of being labeled by name, the samples are labeled only with code letters. Use the following clues and chart of the Mohs Scale of Hardness to determine the identity of each mineral. Then record your results

SAMPLE
CODE

1. ___

2. ___

3. ___

4. ___

5. ___

6. ___

7. ___

8. ___

9. ___

10. ___

Mohs Hardness Scale

	Hardness		Hardness of Common Objects
Talc	1	(softest)	
Gypsum	2		fingernail (2.5)
Calcite	3		piece of copper (3.5)
Fluorite	4		iron nail (4.5)
Apatite	5		glass (5.5)
Feldspar	6		steel file (6.5)
Quartz	7		streak plate (7)
Topaz	8		scratches quartz
Corundum	9		scratches topaz
Diamond	10	(hardest)	scratches all common materials

1. Mineral C can be scratched by every other mineral.

2. Mineral D can be scratched only by mineral H.

3. Mineral F can scratch only mineral C.

4. Mineral A scratches mineral E & I, but it can be scratched by mineral J

5. Mineral E can scratch mineral I.

6. Mineral B can scratch mineral F, but it can be scratched by all other minerals.

7. Mineral H can scratch every other mineral.

8. Mineral G can be scratched by minerals H & D; it can scratch mineral J.