

GY301 Lab: Geological Attitudes and 3D Block Diagram Interpretation

Problem 1: Using **Figure 1** fill in the below matching items with the proper planar attitude. Use the “Strike azimuth, Dip angle and dip quadrant” format for your answer (ex. 045, 65 SE).

- (A) _____ (B) _____ (C) _____
(D) _____ (E) _____ (F) _____
(G) _____ (H) _____ (I) _____

Problem 2: Given the below planar attitudes fill in the **Figure 2** diagram with the proper bedding symbol. Note that the below planar formats vary:

- (A) 090, 34 S (B) N60E, 12 SE (C) 330, 05NE
(D) 060, 07NW (E) Rt. Hand: 210, 35 (F) N30E, 90
(G) Dip trend & angle: 270, 45 (H) 000, 07 W OT (I) horz. (Dip=0)

Problem 3: Given the below linear attitudes fill in the **Figure 3** diagram with the proper lineation symbol. Note that the below linear formats vary:

- (A) 210, 15 (B) 330, 05 (C) 65, 060
(D) 120, 40 (E) 030, 00 (F) 000, 90
(G) 23, S60W (H) 72, N60W (I) 150, 55

Problem 4: Using the block diagram in **Figure 4** add relevant information to the map surface portion of the block diagram. Include strike and dip symbols in each stratigraphic unit on the map surface. Label each stratigraphic unit with the proper abbreviation.

Problem 5: Complete the block diagram in **Figure 5**. Complete all visible sides to the block diagram, and add strike and dip symbols, abbreviations, and fold axial trace symbols to the map surface.

Problem 6: Complete the block diagram in **Figure 6**. Complete all visible sides to the block diagram, and add strike and dip symbols, abbreviations, and fold axial trace symbols to the map surface. Note the stream on the map surface.

Problem 7: Complete the block diagram in **Figure 7**. Complete all visible sides to the block diagram, and add strike and dip symbols to the map surface. Note the stream on the map surface.

Problem 8: Complete the block diagram in **Figure 8**. Add strike and dip symbols, unit

abbreviations, and fold axial trace symbols to the map surface. Note the stream on the map surface.

Problem 9: Complete the block diagram in **Figure 9**. Complete all visible sides to the block diagram, and add strike and dip symbols and fold axial trace symbols to the map surface.

Problem 10: Complete the block diagram in **Figure 10**. Complete all visible sides to the block diagram, and add strike and dip symbols and fold axial trace symbols to the map surface. Note the stream on the map surface.

Problem 11: Complete the block diagram in **Figure 11**. Add strike and dip symbols, unit abbreviations, HW/FW, U/D labels to the map surface. Add fault displacement arrows where appropriate. Note the stream on the map surface. Classify the fault on the diagram.

Problem 12: Complete the block diagram in **Figure 12**. Add strike and dip symbols, HW/FW labels, U/D labels, fold symbols, etc., to the map surface. Add fault displacement arrows where appropriate. Complete the vertical sides of the block diagram as completely as possible and label the units. Classify the fault on the diagram.

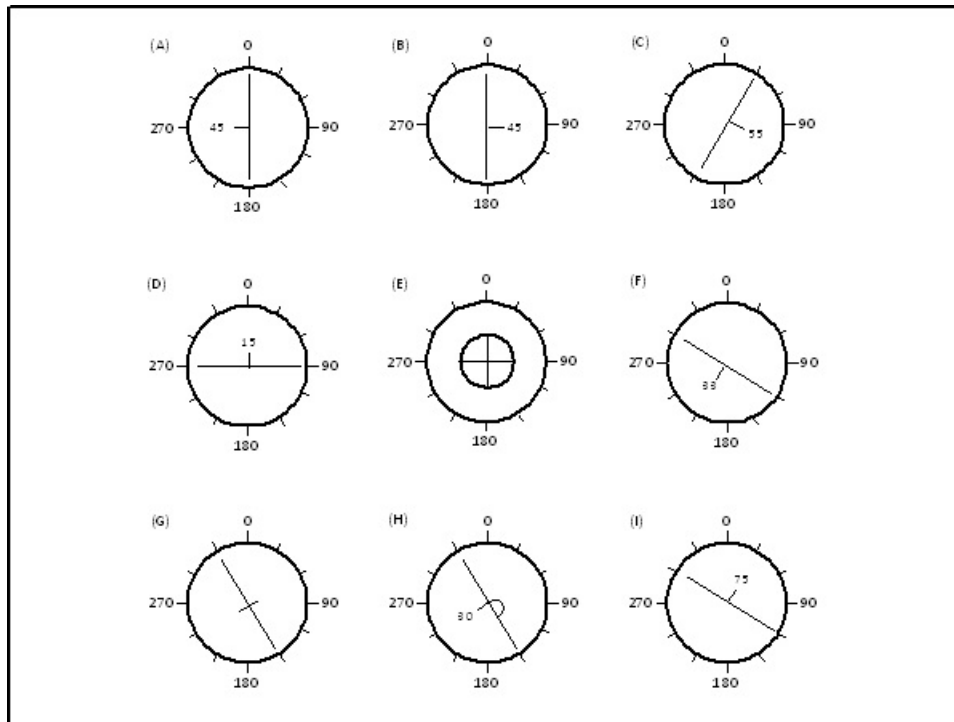


Figure 1 : Diagram for problem 1.

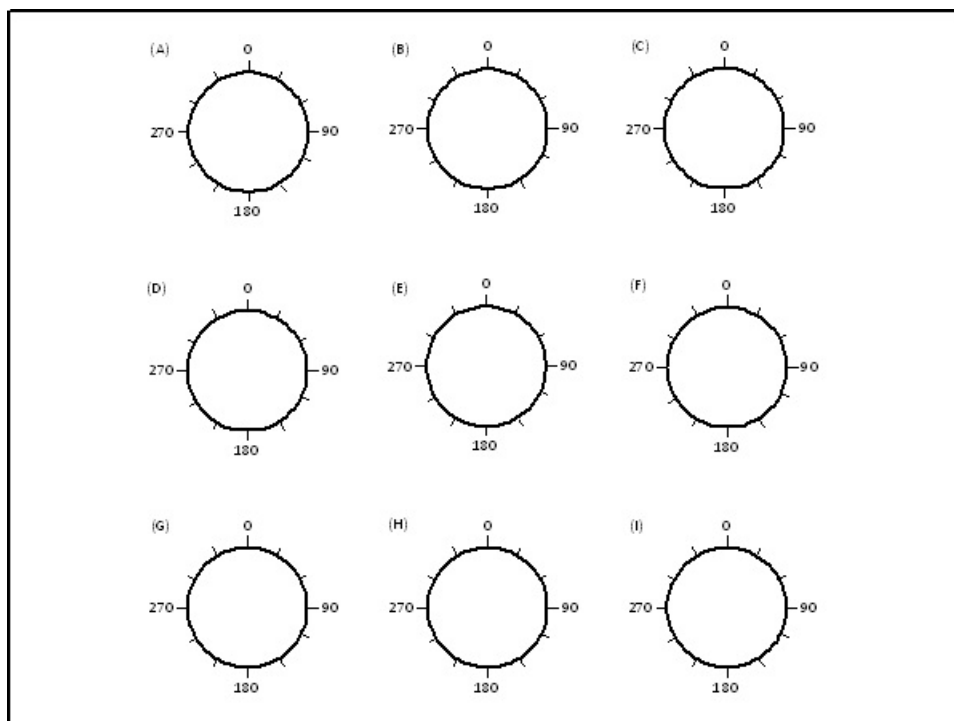


Figure 2 : Diagram for problem 2.

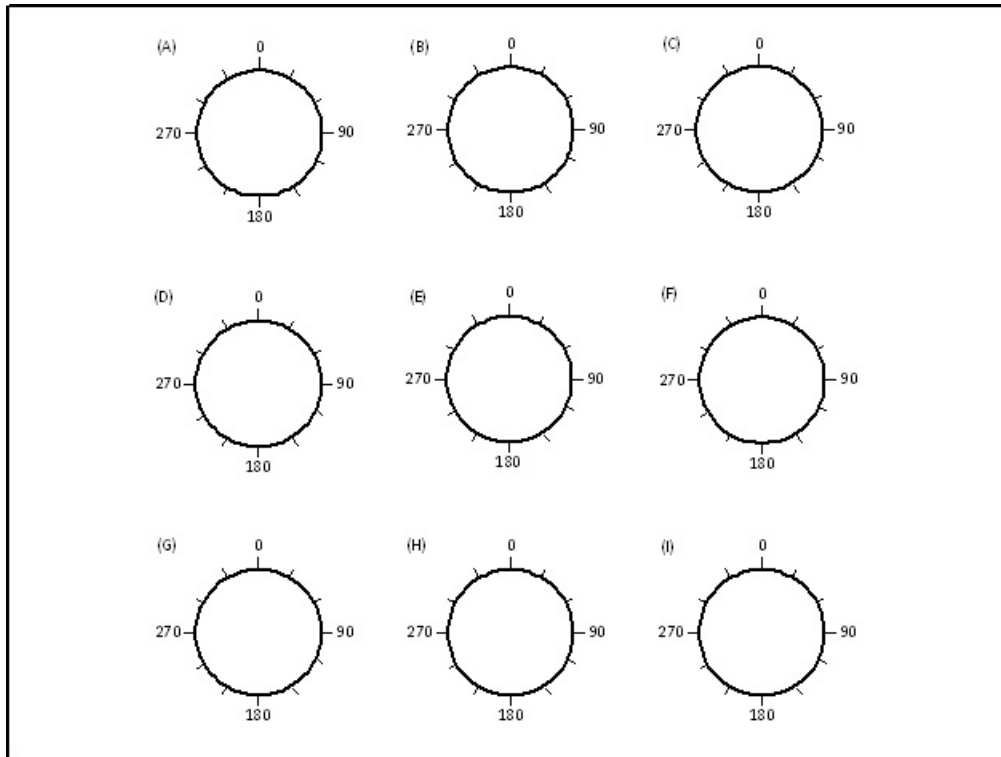


Figure 3: Diagram for problem 3.

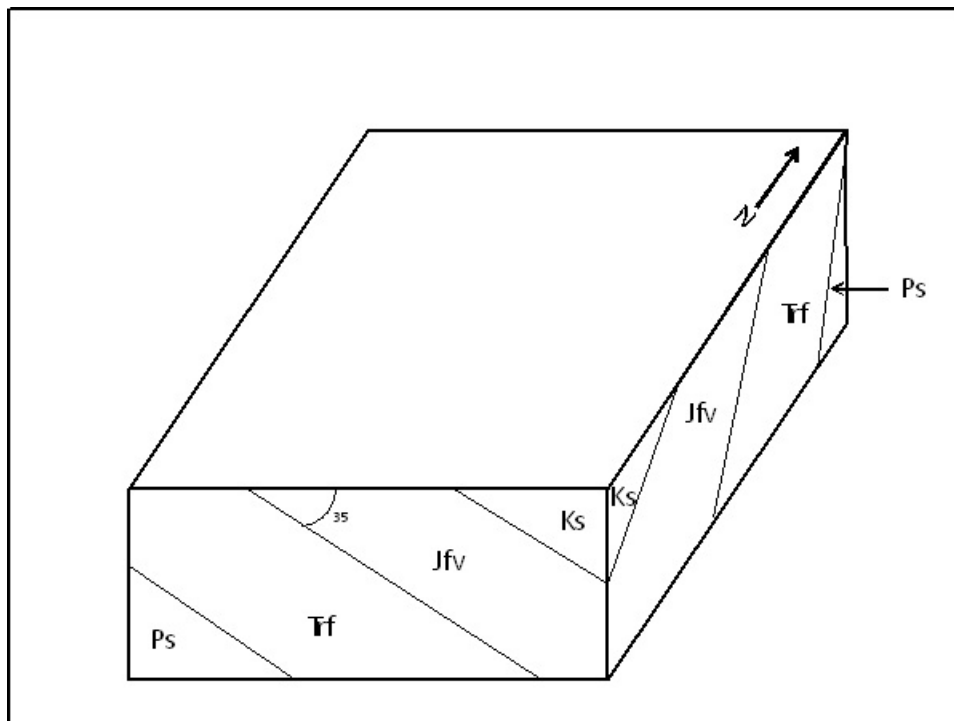


Figure 4: Diagram for problem 4.

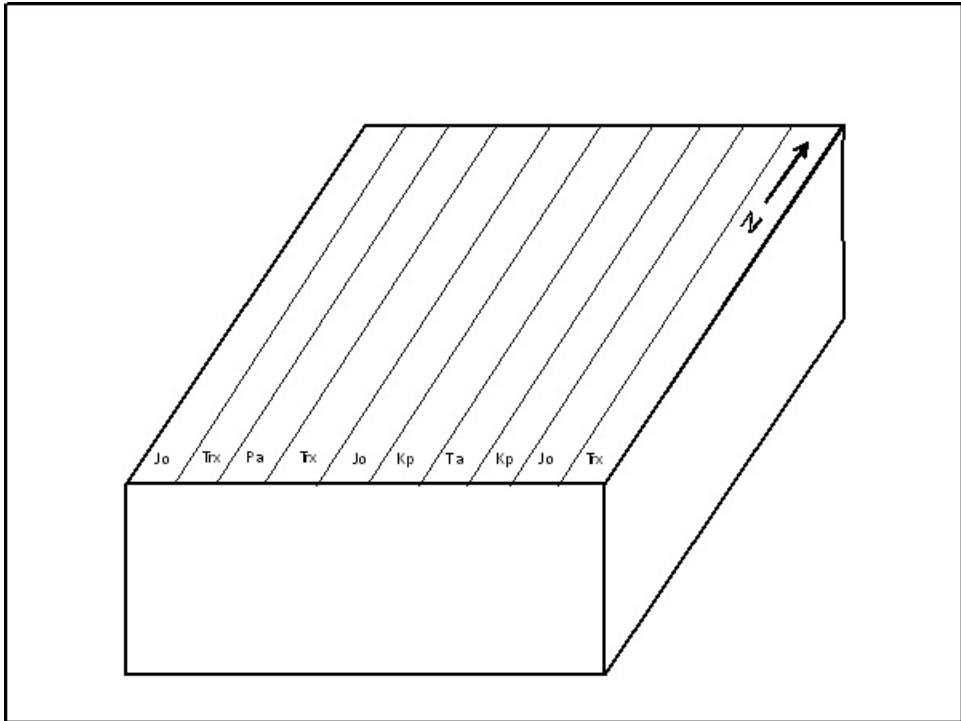


Figure 5: Diagram for problem 5.

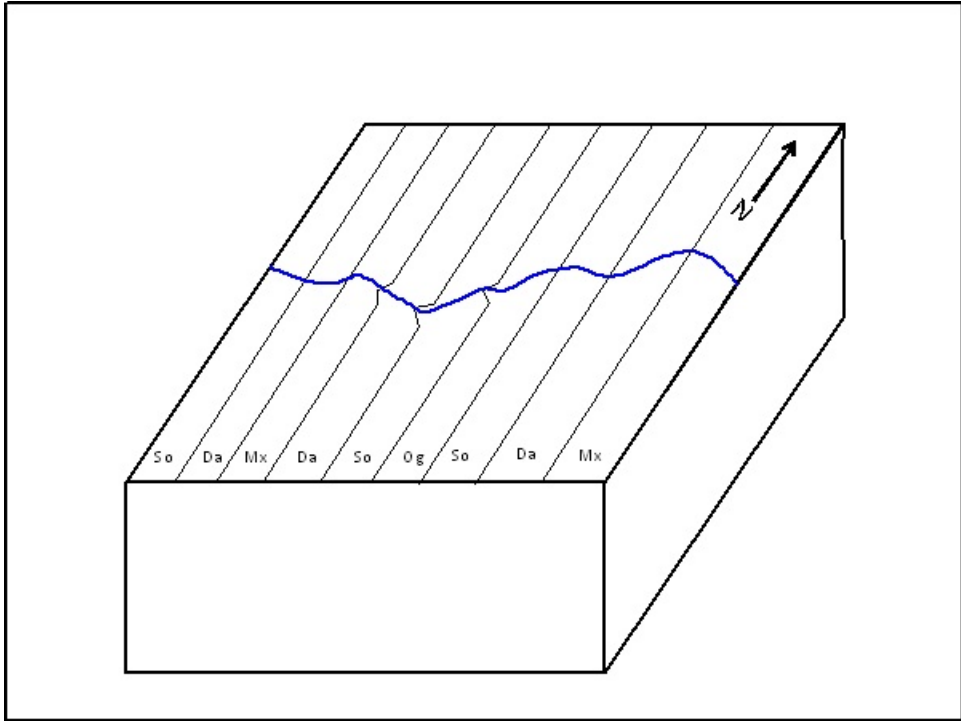


Figure 6: Diagram for problem 6.

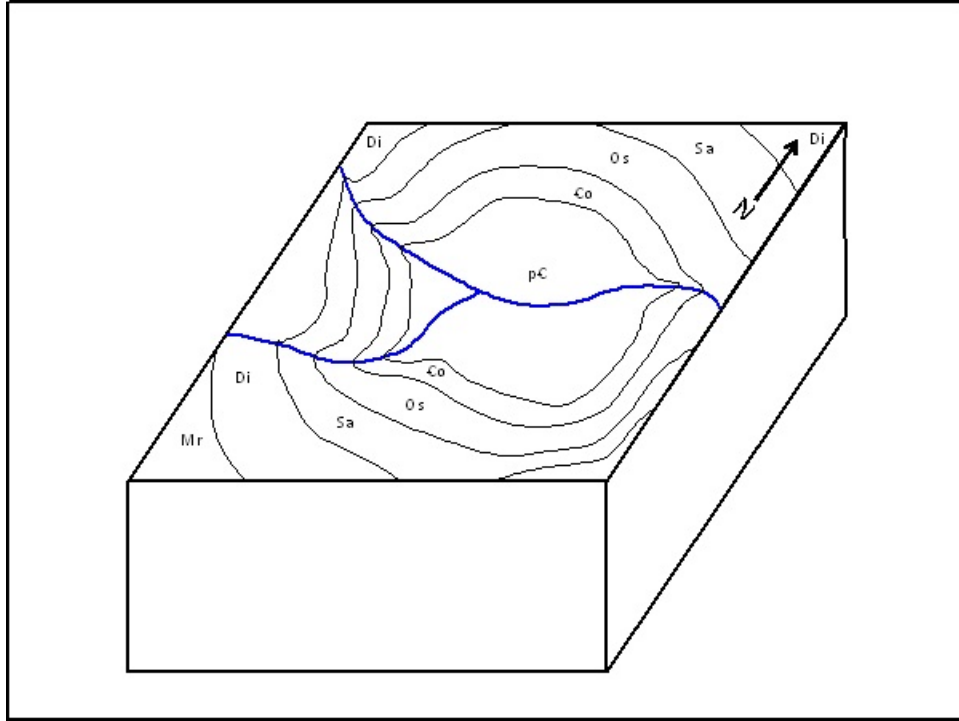


Figure 7: Diagram for problem 7.

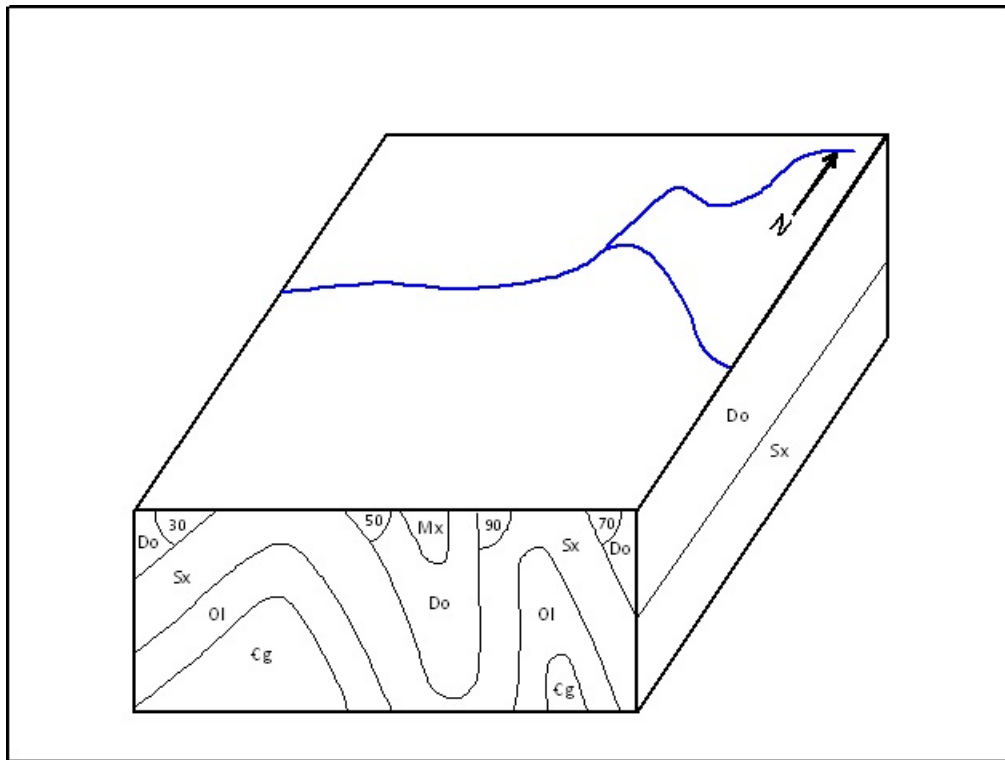


Figure 8: Diagram for problem 8.

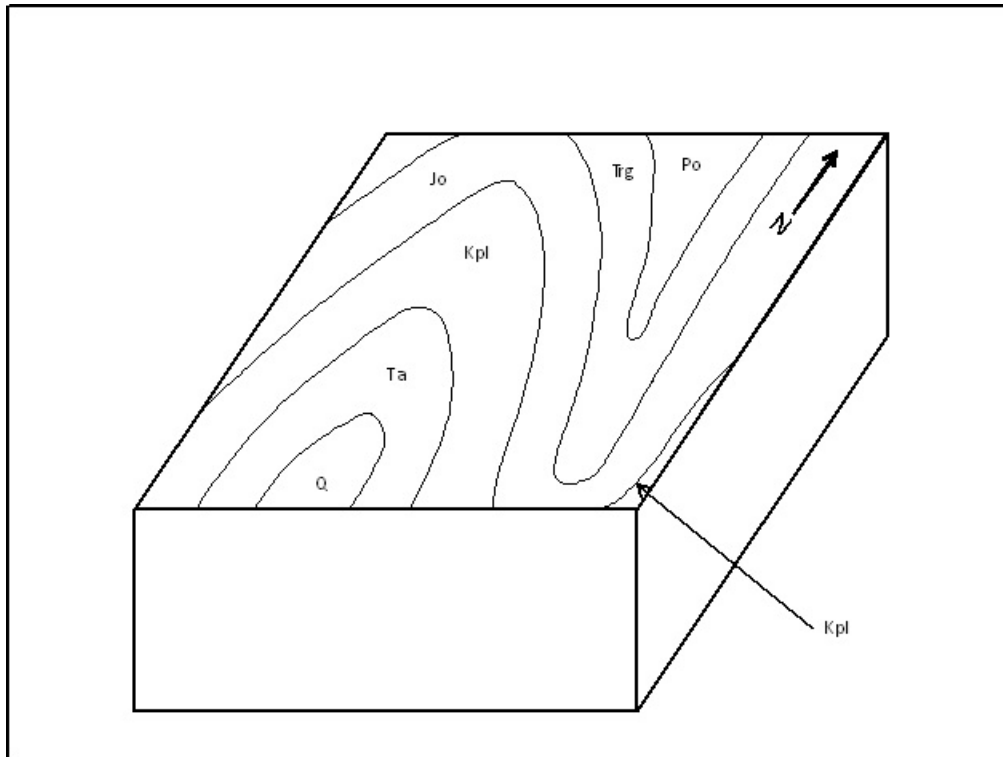


Figure 9 : Diagram for problem 9.

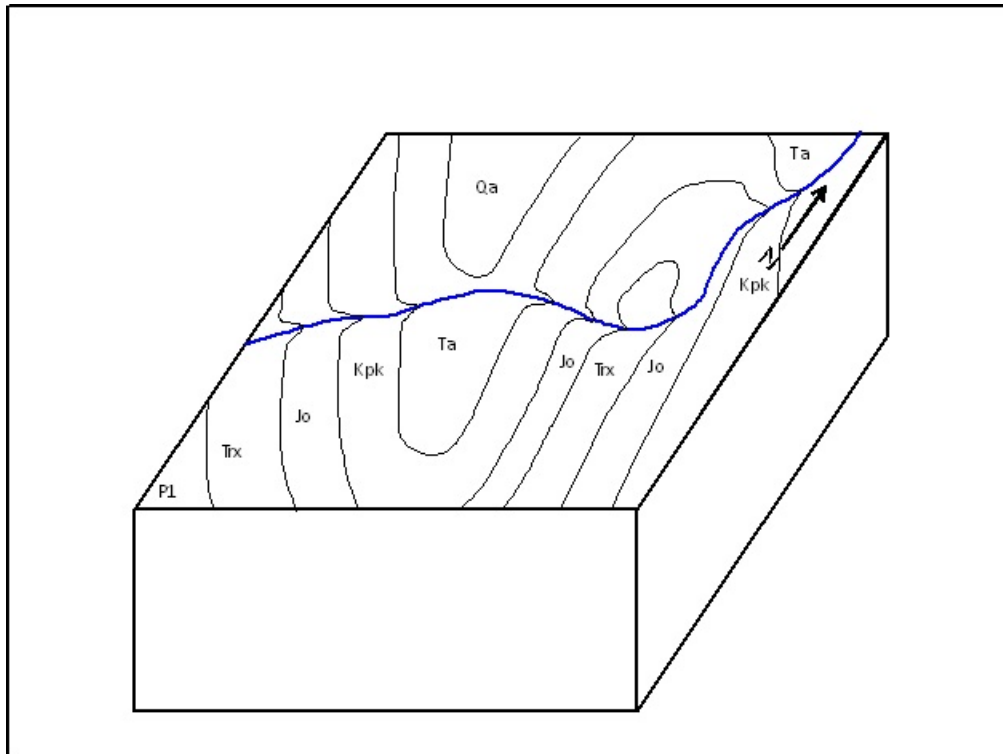


Figure 10: Diagram for problem 10.

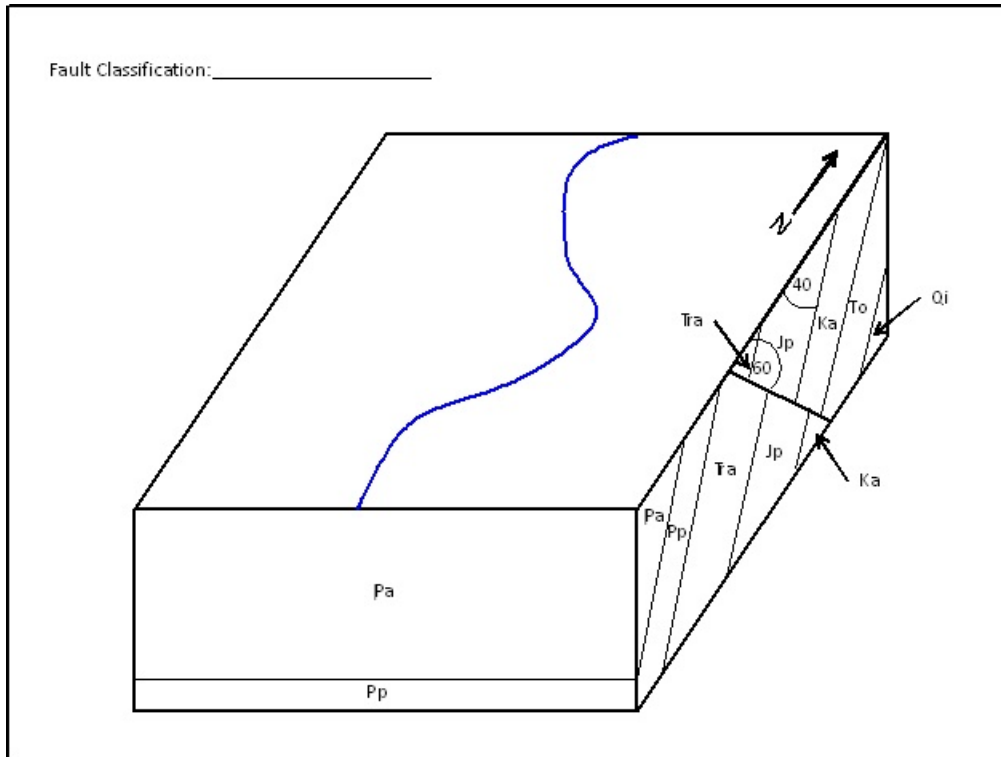


Figure 11: Diagram for problem 11.

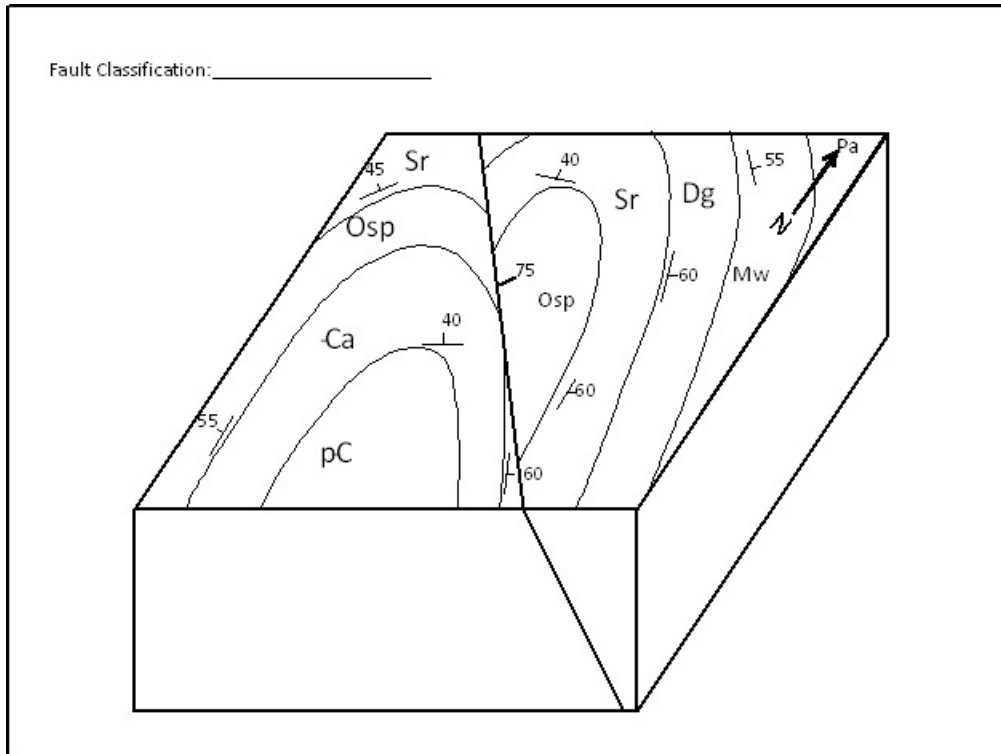


Figure 12: Diagram for problem 12.