

For all questions, briefly explain complications or assumptions as necessary so I know what you are thinking.

Brief, concisely, and accurately explain the following terms and concepts – say what they are and how they work; show your understanding, provide sketches as necessary:

a. Frozen flux theory:

b. Auroras:

c. Least squares criteria:

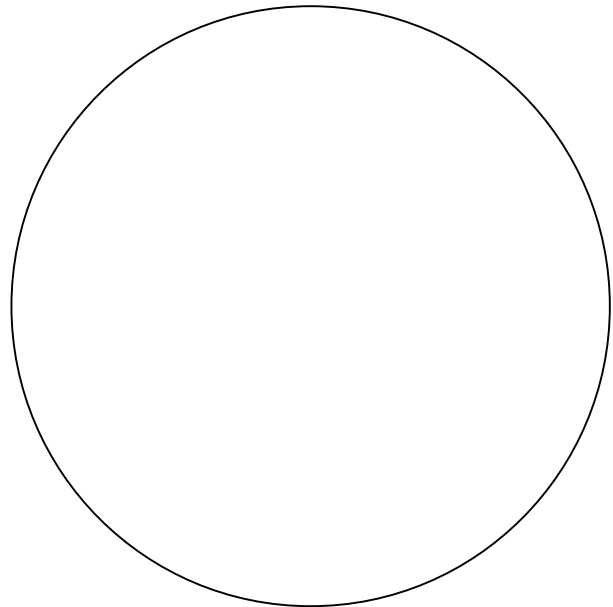
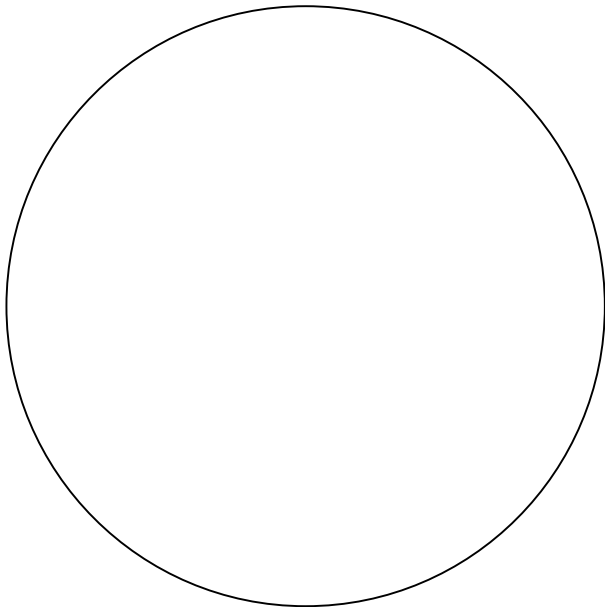
d. Total field magnetic anomaly:

2 Suppose you're working on a small continent on the equator, at longitude 90° West. Your paleomagnetic measurements yield the results in the table. Assume the geocentric axial dipole hypothesis holds. Fill in the blank column with the angle from the site to the pole at time of magnetization:

AGE	Average Declination	Average Inclination	Angular distance to north magnetic pole
Ordovician	90° West	63°	
Devonian	90° West	0°	
Mississippian	120° West	0°	
Permian	150° West	0°	
Triassic	Due South	0°	

a. Plot the apparent polar wander path on the diagram and label the diagram carefully so I know precisely what you mean; explain as necessary.

Extra diagram, just in case...



b. What does the apparent polar wander path tell you about the tectonic history of the continent? Be accurate yet brief.



