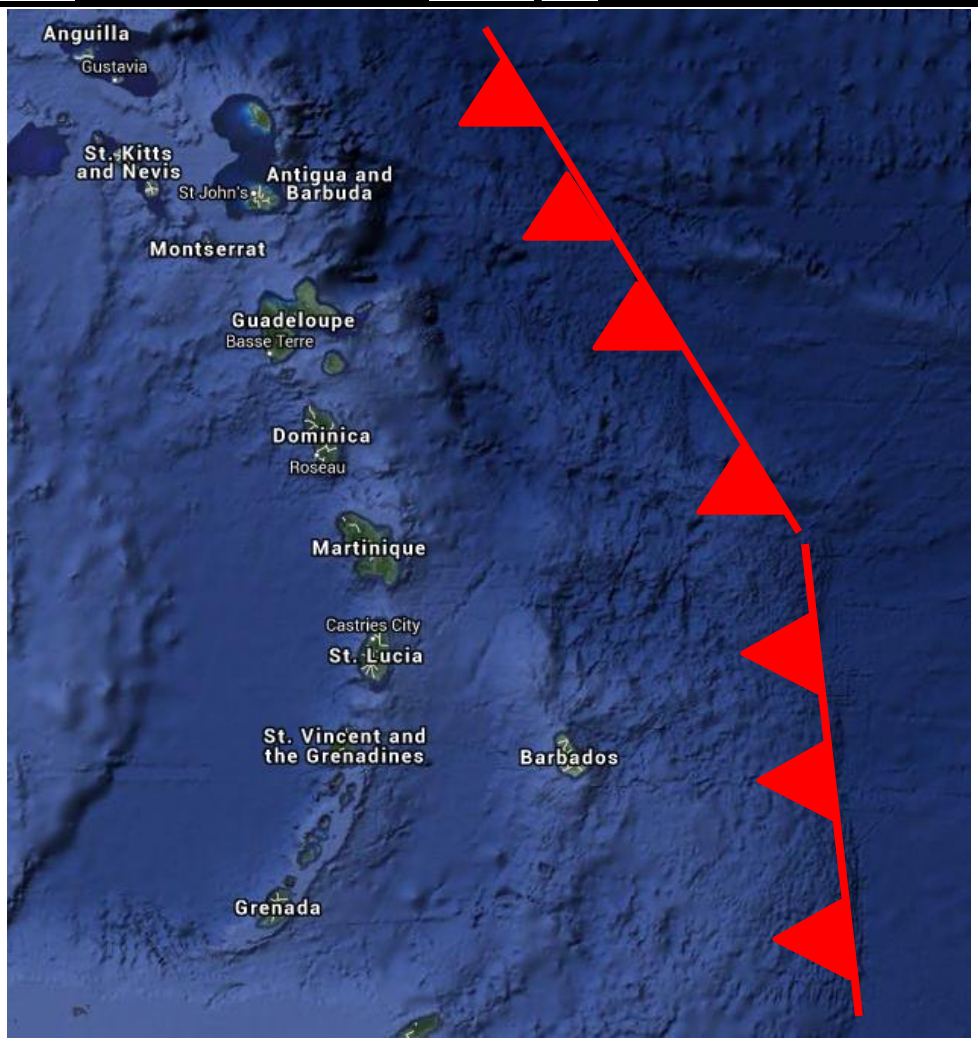
Pennsylvania States
Geologic Mapping
KEY

Name(s): KEY

School: KEY

Team: 160 pts



1. Sketch a Visible Fault Line on figure above. **(Red Line)**

2. _____**Convergent**_____

3. _____**Reverse/Thrust**_____
4. Add the symbol(s) necessary **(Red Triangles pointed towards islands)**

5. **_____The island chain is a <u>volcanic island arc</u>. It formed from magma intruding the crust past the subduction zone. _____**

6. **_____The Western island chain is younger than the Eastern Island chain_____**

7. **__A___**

8. **__A___**

9. **___Earthquakes___**

10. **__Ywt___**

11. **___The rock that composes Chief Mountain is all Middle Proterozoic, while the rock below is Cretaceous (as seen in the info given). The Cretaceous rock therefore is younger geologically than the Middle Proterozoic rock that makes up Chief Mountain. The Middle Proterozoic must have been overthrusted up over the Cretaceous strata during orogeny while the Farallon Plate Subducted beneath the North American Plate. _____**

12. **__The Cretaceous–Paleogene (K–Pg) Extinction or The Cretaceous–Tertiary (K–T) Extinction____**

13. **___Cascade Mountains____**

14. **____Accretionary Wedge (Prism) ____**

15. **___Farallon Plate___**

16. **___B_____**

17. **__Structural Dome___**

18. **___At the Center of the Dome_____**

19.___**Mesozoic Era**____

20.

Youngest	Wasatch Fm	Tropic Shale	Winsor Fm	Carmel Fm
Navajo Ss	Moenkopi Fm	Kaibab Ls	Vishnu Schist	***Oldest***

21. ___**Right**___

22.__**Convergent Boundary**___

23. __**Indian Plate & Eurasian Plate**___

24. ___**Warm (near the equator), Shallow Marine Environments. Often on the Continental Shelf**_____

25. ___**Before the Indian Plate collided with Eurasian Plate, the Limestone formed in the warm, shallow marine environment on the continental shelf off of the Indian Plate. As the two plates collided, the Limestone was uplifted/thrusted upwards, and now happens to be at the peak of Mount Everest.** ***(This is the Simple Version)***_____

26.__**92m**___

27.___**49°_(46-53 will be accepted)**__

28.**Strike: ___~102°__(99-105 accepted) True Dip: __30SW_(28-32)**

29. __**3000m**___

30. ___~**306-308mi *There are two different ways to solve*___**

31.**___1500Z or 3:00PM___**

32.-37. (See end of Key) (+2 Extra Points for Name/Team/School in Corner)

38.**Trend: ___146°_(143-149)_*(3pts)*** **Plunge: __40°_(37-43)_*(3pts)***
Red = Plane/Pole A Blue = Plane/Pole B Orange = Intersection Point

39. **Oldest – __C__, ___D_, __E__, _F___, __G__, _H__,**

__folding_, _faulting_, __A__, __J__, __I___, __B___, __K___,

___N_, ___M_, ___L__, ___P__ - Youngest
^^^^^**(1/2 pt each, +1/2 pts if all correct, 9 total)** ^^^^^

40. **__Dike___**

41.**___Laccolith___**

42.**___Dike___**

43.**___Stock___ (Pluton, Batholith)___**

44.**__Perched Aquifer___**

45.**___No Aquifer___**

46.**___Yes. Unconfined Aquifer_____**

47. **__Inclusion___**

48.**___Strata B____**

49.**___Reverse Fault___**

50. ___**Angular Unconformity___**

51.**__Compressional Forces____**

52.**__Andesite____**

53. **___Carboniferous (or Pennsylvanian)___**

54. **___Left-Lateral (Sinistral) Strike-Slip Fault___**

55. **___The Younger Alluvium areas, marked Qya, essentially form on floodplains and streambed deposits. Seeing the Qya stretched inside the Horseshoe shows evidence of <u>tributaries</u> and other water-rish environments where there is running water._____**

56. **See Map.**

32. → Outline+Directions ***(2pts)***
33. → Plane A(red) ***(3 pts)***
34. → Pole A(red) (***2pts)***
35. → Plane B(blue) ***(3pts)***
36. → **Pole B(blue)** ***(2pts)***
37. → **Draws Line** ***(1pt)***