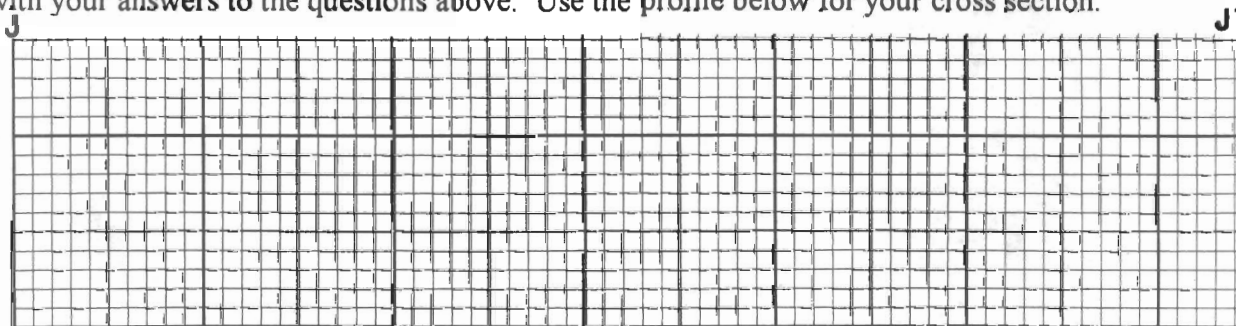


**TOPOGRAPHIC EXPRESSION OF FOLDED STRATA –  
STRASBURG, VIRGINIA**

1. What kind of rock makes up the ridges? \_\_\_\_\_ The valleys? \_\_\_\_\_  
All of the ridges are continuously connected, so they must all be composed of the same bed.
2. Check the ridges for asymmetry and V-shaped notches. Without good asymmetry and without V-shaped notches in the ridges, other evidence must be used to work out the geologic structure. The best place to look for diagnostic features is at the apex (nose) of plunging folds where the dip is usually gentle enough to show asymmetry. Note the crest of Little Crease Mt. (A). Does it have a gently-tapering nose or a steep, blunt nose? \_\_\_\_\_ Therefore, the geologic structure of Little Crease Mt. is \_\_\_\_\_ plunging \_\_\_\_\_. That means the valley of Mill Run (B) must be a \_\_\_\_\_ plunging \_\_\_\_\_. Check this by noting the nose of the fold at 'C'. Is it gently tapering or steep and blunt? \_\_\_\_\_
3. Considering your analysis of the structure at Mill Run, the ridge at 'D' must then be a \_\_\_\_\_ (structure) \_\_\_\_\_ (topographic form) dipping \_\_\_\_\_
4. The bed making up the ridge at 'D' can be traced continuously around to the north where it becomes the ridge at 'E'. If the bed making the ridge at 'D' dips \_\_\_\_\_ and it is the same as the bed making the ridge at 'E', the geologic structure of the valley at 'F' must be a \_\_\_\_\_ Draw the axis of the structure on the map.
5. Having worked out this part of the geologic structure of the area, now consider the geologic structure of the ridges at 'E' and 'G'. Start by noting the nose of the structure at Signal Knob (H). Is the nose gently tapering or steep and blunt? \_\_\_\_\_ The structure there must be a \_\_\_\_\_ plunging \_\_\_\_\_ Draw the axis of this structure on the map. Thus, Three Top Mt. (G) must be a \_\_\_\_\_ (structure) \_\_\_\_\_ (topographic form) dipping \_\_\_\_\_, and Little Fort Valley (I) is a \_\_\_\_\_ (structure) \_\_\_\_\_ (topographic form).
6. This leaves only the structure of the ridge at 'E' to be determined. Although this can be done by continuing the same logic, an easy way to visualize the structure is by drawing a geologic cross-section along the line J-J', making sure that all of structures are continuous and consistent with your answers to the questions above. Use the profile below for your cross section.



7. Mill Run flows part of the way in the valley at 'B', but instead of flowing out the lower end of this valley, the stream turns abruptly and cuts across Little Crease Mt. at Veach Gap. Can you offer an explanation for this anomalous behavior?

