'Creating Measures' Sharp-ness Task - Example #6

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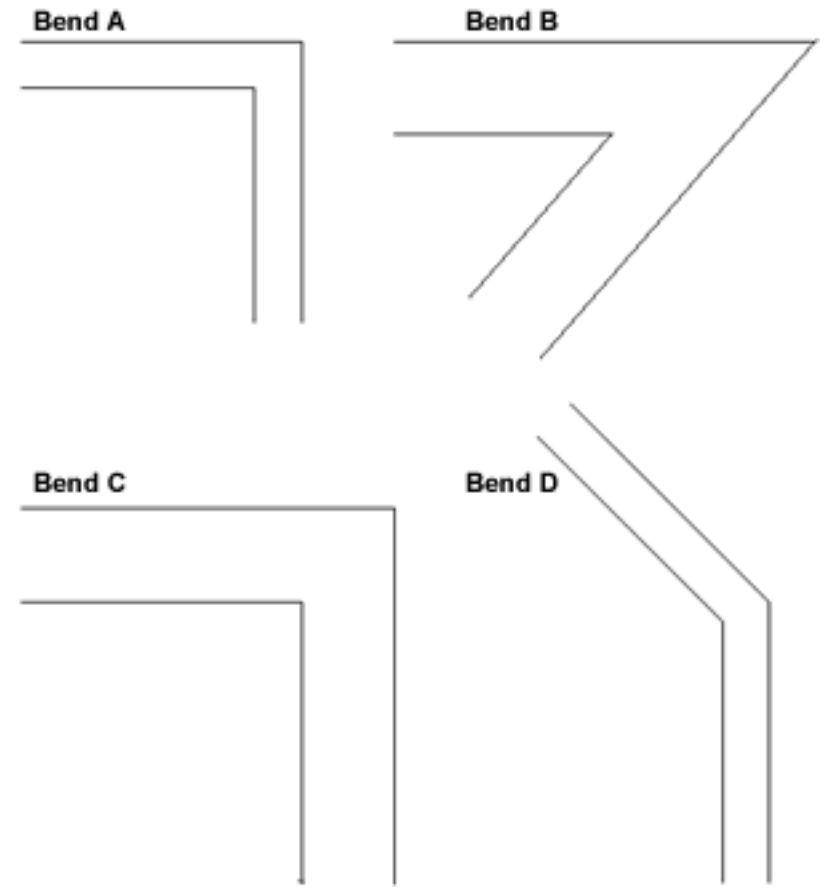
This task gives you the chance to:

- invent your own measure for the concept of 'difficulty' of going round a bend
- use your measure to put bends in order of 'difficulty'
- explain how your measure depends on the angle of the bend and on the width of the road.

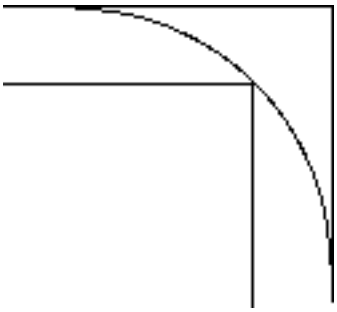


1. To start with, imagine that you only travel parallel to the sides of a road.

   So, ignoring the width of each road, put the four bends in order of "difficulty."

   Explain your method clearly.

2. Now suppose you are able to cut corners along circular arcs.

   Put the bends in order of "difficulty."

   Explain how you do this.

3. Find a way of measuring the 'difficulty' of a bend, taking into account that you can cut corners. Your measure should provide a single number for each bend which gives an indication of its 'difficulty'.

4. Show how you can use your measure to place the four bends in order of difficulty. Compare what you get with your answer to question 2.

5. Describe, in as much detail as you can, how your measure of difficulty depends on the angle of the bend and on the width of the road.