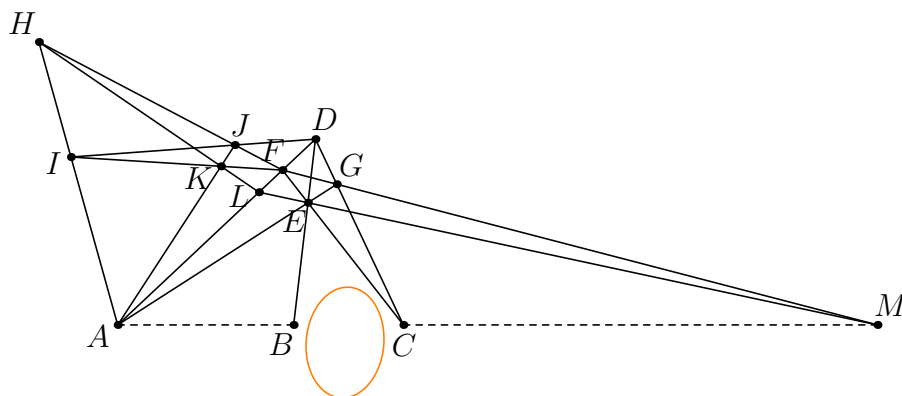


Sloth Blocking Ruler

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Problem (Sloth Blocking Ruler). You have a large sheet of paper in which three marked points A, B, C are collinear in that order. You want to construct line ABC with your straightedge, but a cute sloth is sleeping peacefully on the paper and obstructing the segment BC . Determine how to extend ray AB past C without disturbing the sloth (with straightedge alone).



This is a very nice problem that looks deceptively easy, but is highly nontrivial.

¶ **Main Idea** Construct the harmonic conjugate of A, B, C , by using Menelaus-Ceva twice.

¶ **Solution** See the construction above.