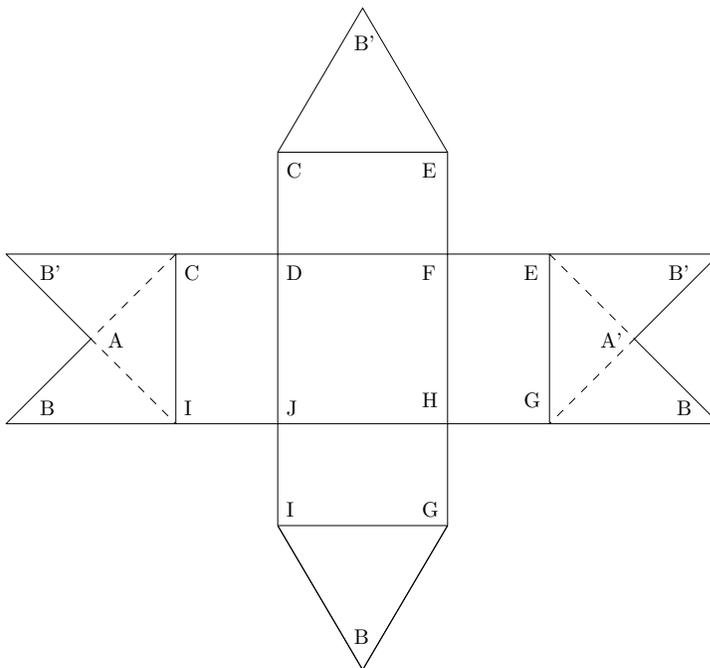


Comprehension questions

PROBLEM 26.1. *Take four different projective lines, and count the number of points which belong to more than one of those lines. What possible numbers can we get? For each possibility, make a drawing of the situation.*

PROBLEM 26.2. *Can there be a $(6_3 6_3)$ configuration of points and lines?*

PROBLEM 26.3. *Build a paper model of the projective plane, by following these instructions:*



Make downwards folds along the solid segments $(CI, DJ, DF, HJ, HF, GE, CE, IG)$ and upwards folds along the dotted segments $(AC, AI, A'E, A'G)$. We always identify (with sticky tape) the segments with the same labels. The resulting shape appears to cross itself; however, we must think of the segments AB and $A'B$ as distinct sets of points, having only the corresponding endpoints identified.

How is this a representation of the projective plane? (This problem is solved by including a photo and a short explanation.)

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