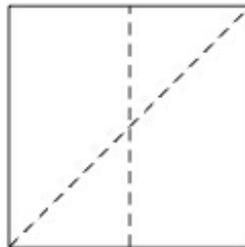


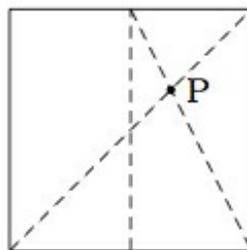
8.EE Folding a Square into Thirds

Task

Suppose we take a square piece of paper and fold it in half vertically and diagonally, leaving the creases shown below:

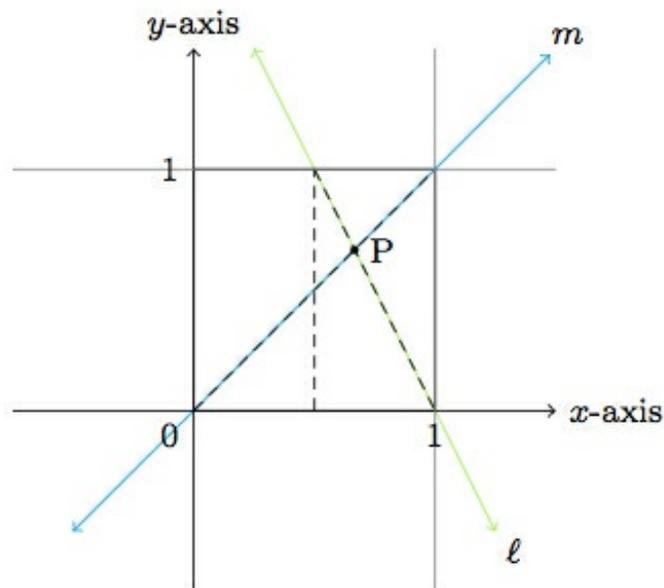


Next we make a fold that joins the top of the vertical crease to the bottom right corner, leaving the crease shown below. The point P is the intersection of this new crease with the first diagonal fold.



- Place the lower left corner of the square at $(0,0)$ on a coordinate grid with the upper

right corner at $(1,1)$ as pictured below:



The lines ℓ and m labelled in the picture contain the two diagonal folds. Find equations defining ℓ and m and use these to calculate the coordinates of the point P .

b. Explain how to use part (a) in order to fold the square into thirds.



8.EE Folding a Square into Thirds
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