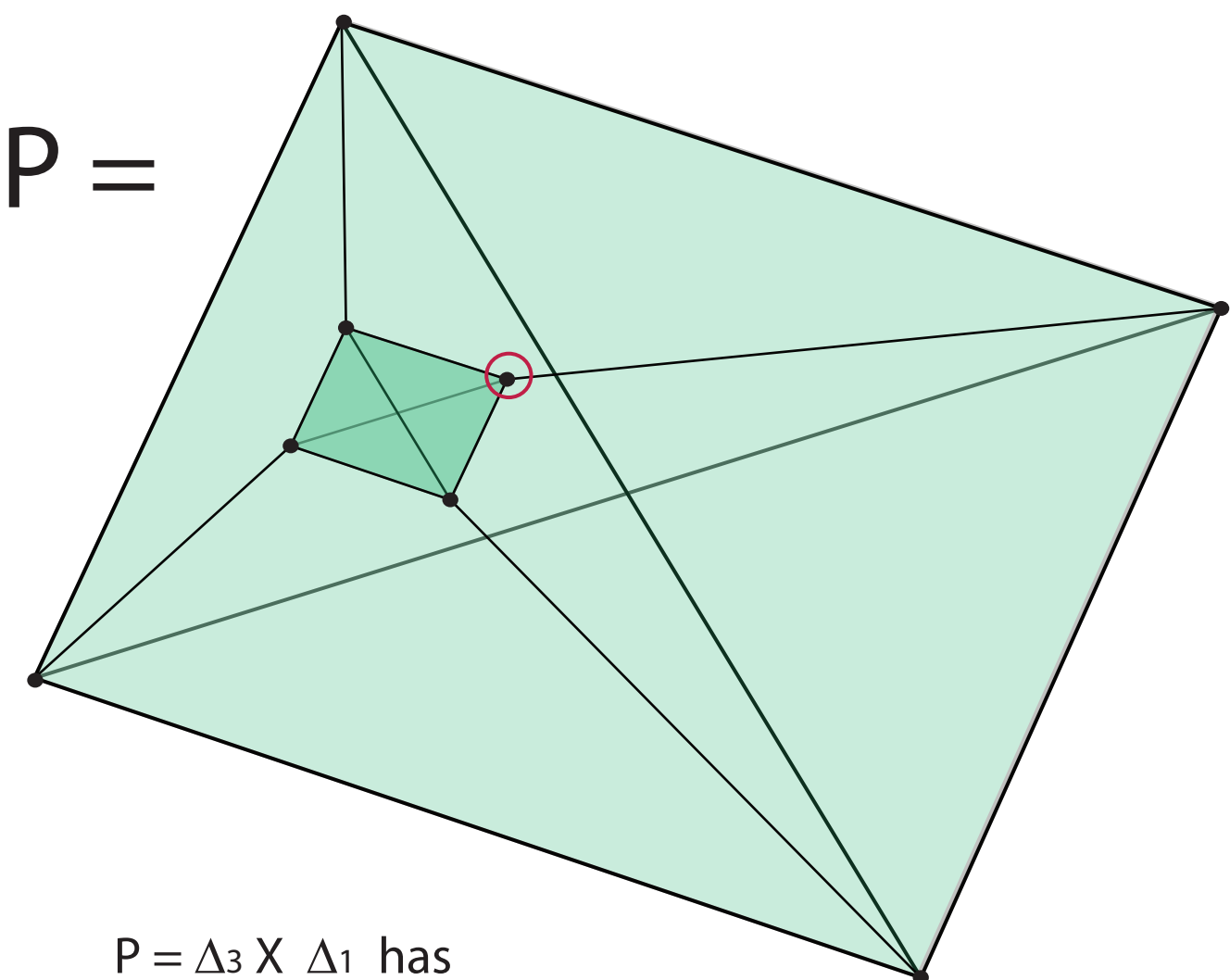
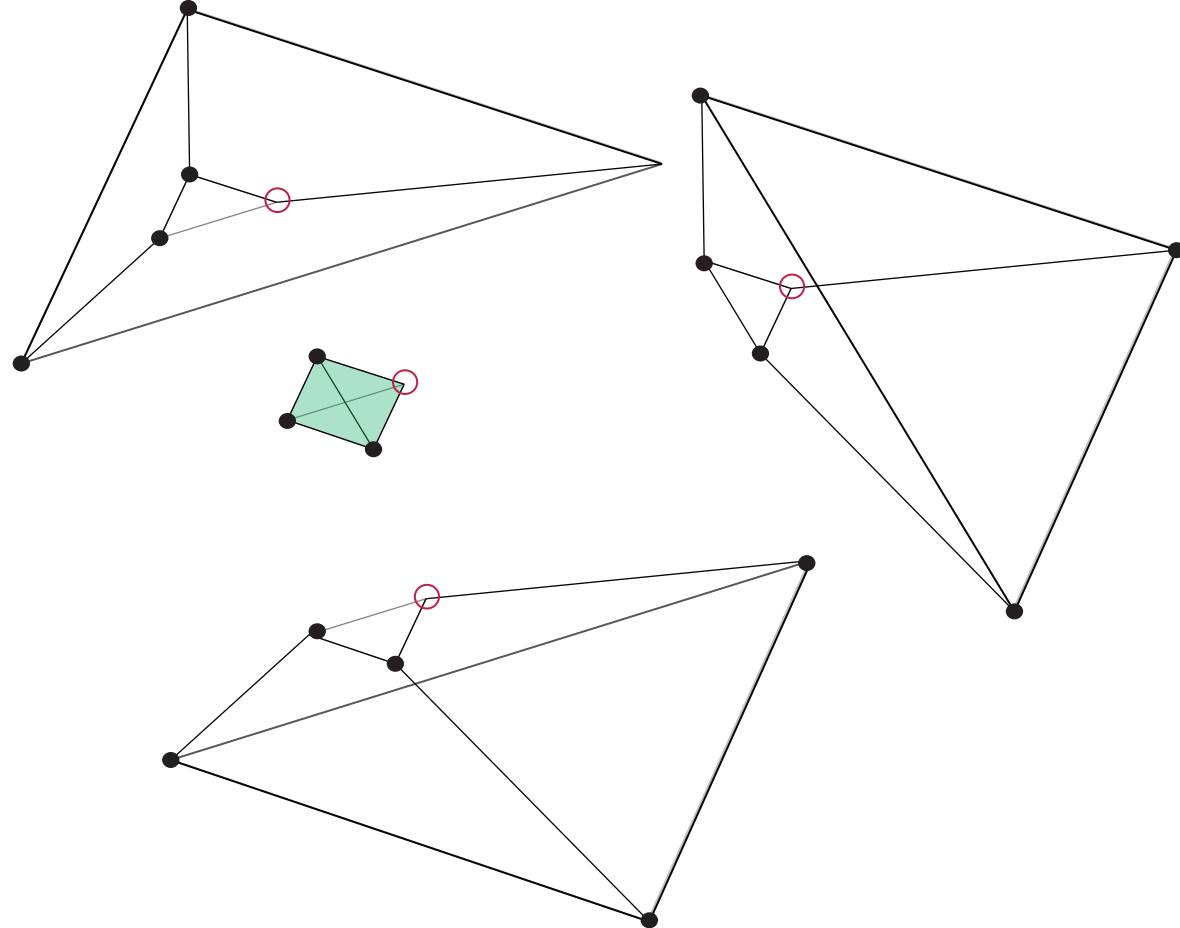


$P =$

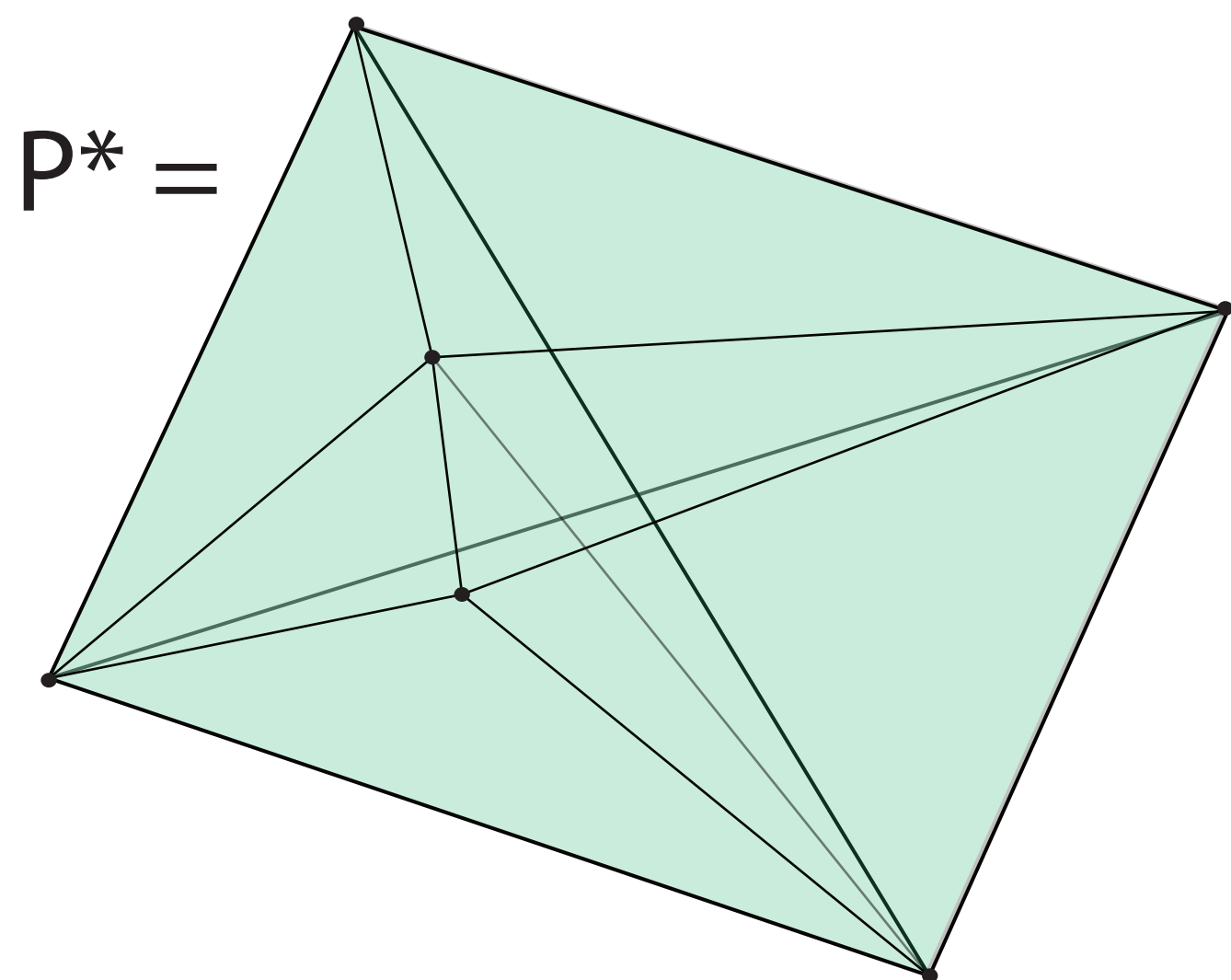


$P = \Delta_3 \times \Delta_1$ has eight vertices and 6 facets. Thus P^* will have 6 vertices and 8 facets.



The circled vertex is adjacent to the four shown facets. In fact, every vertex is adjacent to 4 of the 6 facets. Therefore each facet of P^* will be a tetrahedron.

$P^* =$



These two pictures have the same 1-skeleton, but only the picture above has 8 tetrahedral facets. Is the picture to the right even a Schlegel diagram of a polytope? Its outer facet would be the bipyramid of a triangle, and there are 6 more tetrahedra inside. The extra credit question is to decide this, yes or no. If yes, then it is another example of distinct polytopes with the same 1-skeleton.

$P^* \neq$

