Some topics related with projective planes

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Abstract

We define projective planes and present several results on colorations and graph theory related with them. In particular, we give an overview of the following topics:

1. the upper chromatic number and specifically the balanced upper chromatic number in projective planes,

2. the notion of the achromatic and pseudoachromatic numbers for the linear graph of the complete graph and their relation to projective planes, and

3. a brief description of cages of girth six and their relation with projective planes.