

Counting lines on surfaces

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Abstract. This paper deals with surfaces with many lines. It is well-known that a cubic contains 27 of them and that the maximal number for a quartic is 64. In higher degree the question remains open. Here we study classical and new constructions of surfaces with high number of lines. We obtain a symmetric octic with 352 lines, and give examples of surfaces of degree d containing a sequence of $d(d - 2) + 4$ skew lines.

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