1. In Fig. 1.1, a circle touches all the four sides of a quadrilaterals *ABCD* whose sides are $AB = 6, BC = 9$ and $CD = 8$ cm. Find the length of side *AD*.
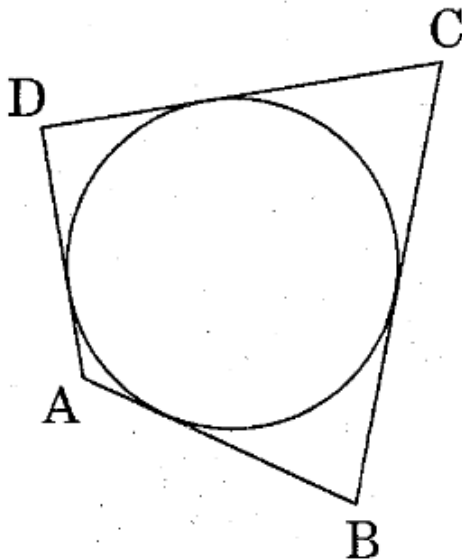

Fig. 1.1

2. Find an A.P. whose fourth term is 9 and the sum of its sixth term and thirteenth term is 40.