

no very general principles of operation can be laid down; and even the construction of a given case may admit of a number of variations of which some are more elegant than others. The following will serve to illustrate the subject:

Ex. 1. To construct an angle whose sine is given.

Take any line-segment OP as radius and on it describe



FIG. 28

the semicircle OMP . In this semicircle place the chord $PM = OP \times \text{given sine}$, and join MO .

Then MOP is the required angle. This gives the smallest angle, but the supplement of MOP has the same sine.

A similar construction finds an angle whose cosine is given. For if the chord OM be made equal to r times the given cosine, MOP is the required angle.

Ex. 2. To construct an angle whose tangent is given.

Take an arbitrary segment, OA , as radius and draw



FIG. 29