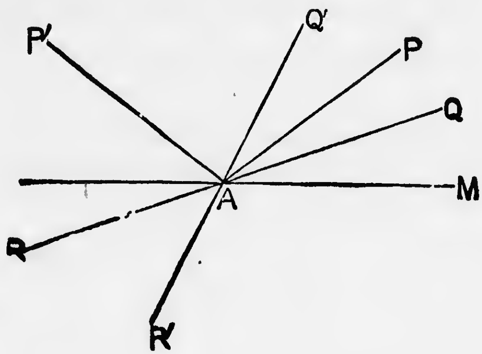
Now the ratios of all these angles are of the same magnitude and can only differ in sign, there being a pair of angles which have each ratio + and a pair −.

∴ in determining from the cosine we get *two* values.

Next, let A be an angle whose sine is known, and describe MAP the least angle which has the given sine.

Make MAP' equal to the supplement of MAP.



Then A must be either MAP or MAP', or some angle formed by adding (or taking) a multiple of four right angles to (or from) either of these.

Bisect these angles as before

Then $\frac{A}{2}$ must be an angle which has MA and one of the four QA, RA, $Q'A$, $R'A$ for its bounding lines.

Now those which have either QA or RA as one of their boundaries have ratios equal in magnitude but opposite in sign. So also for those having $Q'A$ or $R'A$ as one of their boundaries; but the magnitudes of the ratios of the former sets differ from those of the latter.

∴ the ratios of $\frac{A}{2}$ may be either of two sets of magnitudes and of either sign, and therefore have *four* different values.