$$= \frac{2\ a \times a}{b\ c} \qquad \text{G. S.}$$

N.B.—The factor b being a number, then $b\ c$ is only one literal factor, viz., the line c taken b times. The radius of the circumscribed circle is evidently

$$R = \sqrt{r^2 + \frac{c^2}{4}} \qquad \text{N. and G. S.}$$

PROBLEM XX.

To construct a circle equivalent to a given square a^2.

$$\text{Radius} = \sqrt{\frac{a^2}{\pi}} \qquad \text{N. S.}$$

$$= \sqrt{\frac{a}{3} \times a} \qquad \text{G. S.} \left\{ \begin{array}{l} \text{(See N. B.} \\ \text{Prob. XIII.)} \end{array} \right.$$

PROBLEM XXI.

To transform a triangle $\frac{a\ h}{2}$ into a rectangle $b\ x$, having given the base b.

$$\text{Altitude } x = \frac{a\ h}{2\ b} \qquad \text{N. and G. S.}$$

PROBLEM XXII.

To transform an irregular polygon into a triangle $\frac{a\ h}{2}$ having given the base a.

Let P, Q, R, S...... be the triangular parts of the polygon, and x^2 a square equivalent to their sum ; find x by the Problem XII., and then

$$\text{Altitude } h = \frac{2\ x^2}{a} \qquad \text{N. S.}$$

$$= \frac{2\ x \times x}{a} \qquad \text{G. S.}$$

By a similar process, any polygon or any number of different polygons may be easily and readily transformed into an equivalent one of any kind.

PROBLEM XXIII.

To construct a square x^2, having given the excess a, of the diagonal over the side x.

$$x = a + \sqrt{2\ a^2} \qquad \text{N. S.}$$