IF *from a point without a circle two ſtraight lines be drawn to it, one of which* —— *is a tangent to the circle, and the other* —·—· *cuts it; the rectangle under the whole cutting line* —·—· *and the external ſegment* —— *is equal to the ſquare of the tangent* ——.

FIGURE I.

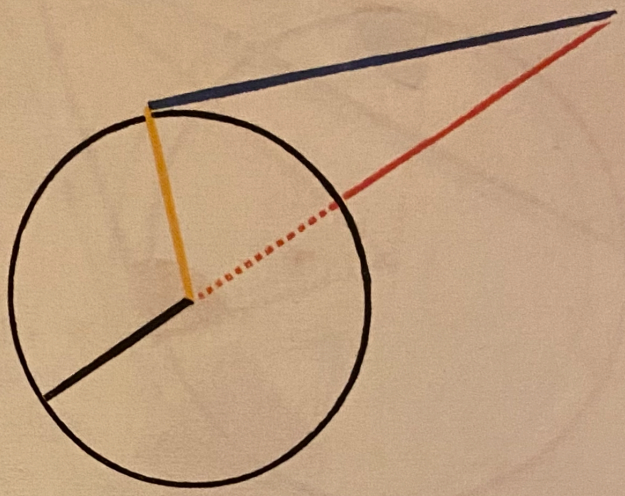


FIGURE I.

Let —·—· paſs through the centre;

draw —— from the centre to the point of contact;

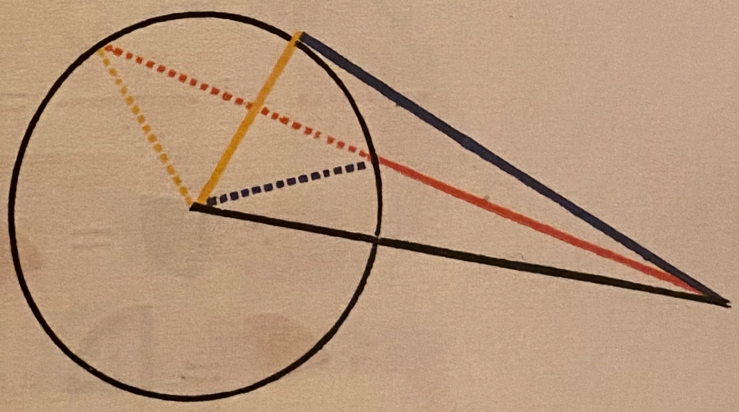
——^{2} = —·—·^{2} minus ——^{2} (B. 1. pr. 47),

or ——^{2} = —·—·^{2} minus ——^{2},

$\therefore$ ——^{2} = —·—· × —— (B. 2. pr. 6).

FIGURE II.

If —·—· do not paſs through the centre, draw ——— and ———.



Then —·—· × —

= ——^{2} minus ———^{2}

(B. 2. pr. 6), that is,

—·—· × — = ——^{2} minus ——^{2},

$\therefore$ —·—· × — = ——^{2} (B. 3. pr. 18).

Q. E. D.