from *RadiusGauge.pdf* p.10, consider △OXA: setting $r = OA$, $s = AX$, and $h = XB$

then $OX = (r - h)$

By Pythagoras for△OXA	$r^2 = s^2 + (r - h)^2$
Expanding the squared term	$r^2 = s^2 + r^2 - 2rh + h^2$
Rearranging	$2rh = s^2 + h^2$
Hence	$r = \frac{(s^2+h^2)}{2h}$