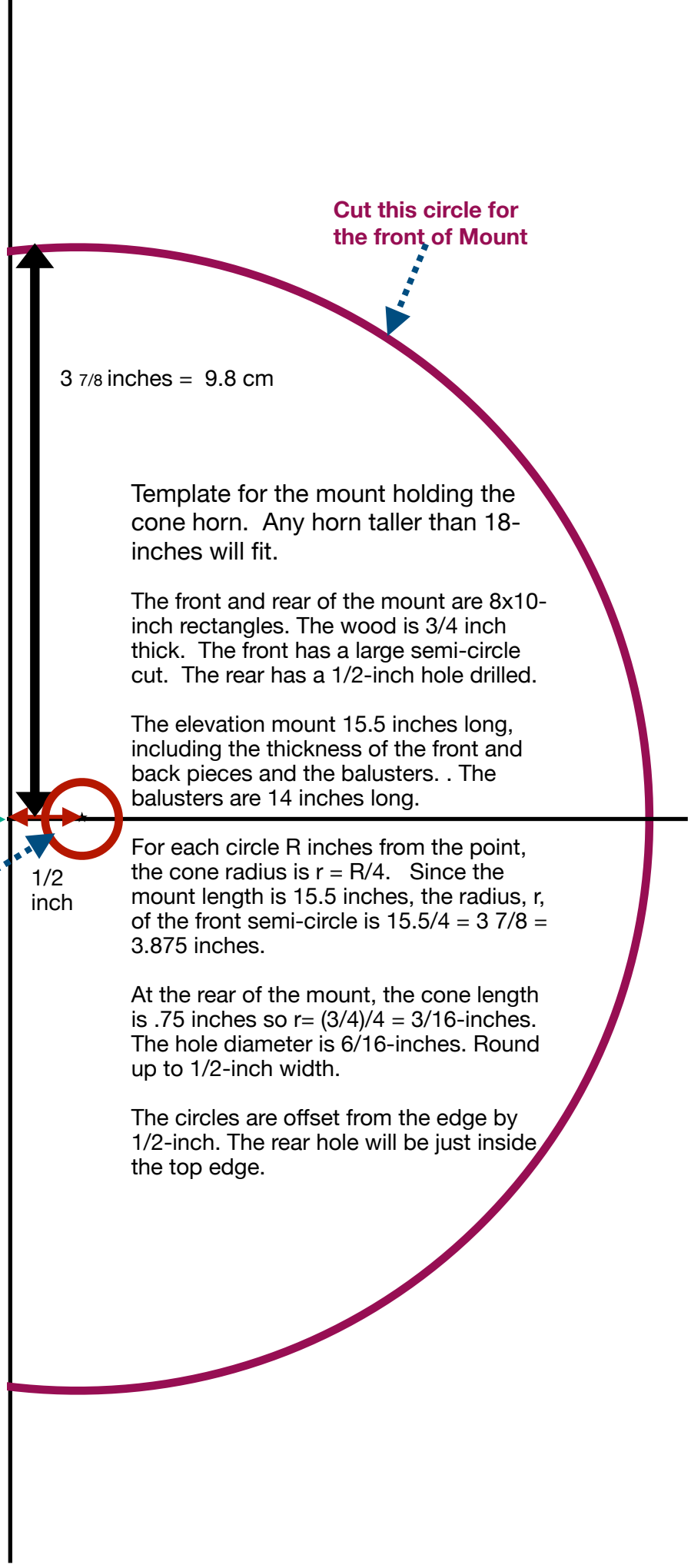

The feed probe is inserted at optimum location, where the circumference of the cone is 2 lambda. As a formula:

$C = 2 \pi r = 2$ lambda

$\pi r =$ lambda or $r =$ lambda $/ \pi$

Now $r = R/4$

$R = 4 *$ lambda $/ \pi$
$= 4 *$ 21.12-cm / 3.1415
= 26.9-cm
=10.6-inches.