





$$s = r\varphi$$

$$t = (r + r^{\diamond}) \sin \varphi = r \frac{\sin \varphi}{\cos \varphi}$$

$$r^2 + t^2 = (r + r^{\diamond})^2$$

$$r^{\diamond} = \sqrt{r^2 + t^2} - r$$

$$(r + r^{\diamond}) \cos \varphi = r$$

$$r(1 - \cos \varphi) = r^{\diamond} \cos \varphi$$

$$r^{\diamond} = \frac{r}{\cos \varphi} - r = \frac{r(1 - \cos \varphi)}{\cos \varphi}$$

$$t = \sqrt{r^2 + t^2} \sin \varphi$$

$$t^2 = (r^2 + t^2) \sin^2 \varphi$$

$$t^2(1 - \sin^2 \varphi) = r^2 \sin^2 \varphi$$

$$t^2 \cos^2 \varphi = r^2 \sin^2 \varphi$$

$$t \cos \varphi = r \sin \varphi$$

$$t = r \frac{\sin \varphi}{\cos \varphi}$$