radio	área
r	πr^2
$2r$	$\pi (2r)^2 = 4(\pi r^2)$
$3r$	$\pi (3r)^2 = 9(\pi r^2)$
$4r$	$\pi (4r)^2 = 16(\pi r^2)$

Si aumentamos el radio en un factor k
el área aumenta en un factor k^2

$$(r_2 - r_1)^2 = r_2^2 - 2r_2 r_1 + r_1^2 = r_2^2 + r_1^2 - 2r_2 r_1$$
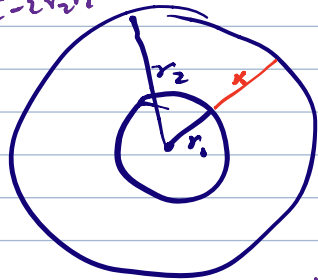
$$r_2 - r_1 = k$$

$2x$

$$\pi r_2^2 - \pi r_1^2 = \pi (r_2^2 - r_1^2)$$

$r_1 \rightarrow 2r_1$
$r_2 \rightarrow 2r_2$

$r_2 - r_1 \rightarrow 2(r_2 - r_1)$

$$d = r_2 - r_1$$

d	área
d	$\pi (r_2^2 - r_1^2) = A$
$2d$	$\pi ((2r_2)^2 - (2r_1)^2) = \pi (4r_2^2 - 4r_1^2)$ $= 4\pi (r_2^2 - r_1^2) = 4A$
$3d$	$\pi ((3r_2)^2 - (3r_1)^2) = 9\pi (r_2^2 - r_1^2) = 9A$
$4d$	$\pi ((4r_2)^2 - (4r_1)^2) = 16A$