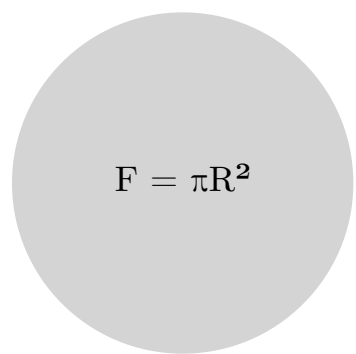Area of full circle

$F = \pi R^2$

Cutout area:
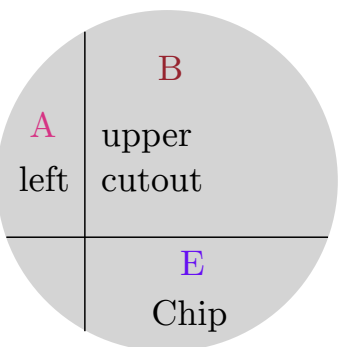$A = R^2/2 \cdot (\vartheta - \sin\vartheta)$
where ϑ is the opening angle:

A ϑ
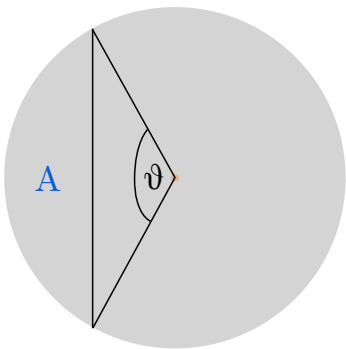
Want: Area E
Circle area remaining on chip

B

A
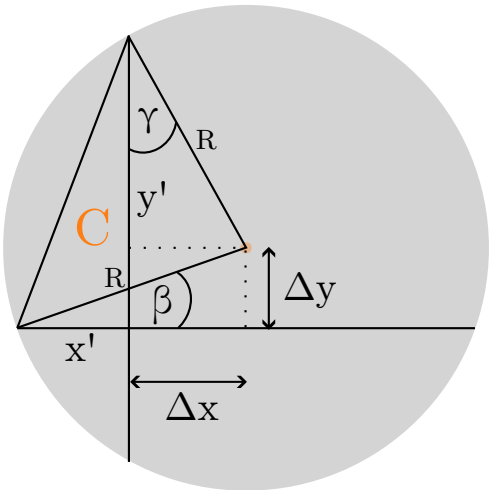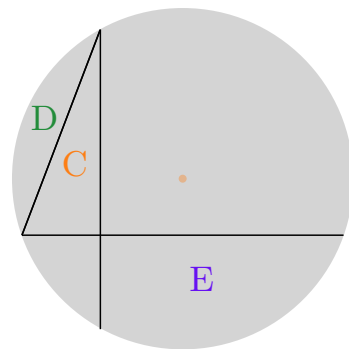left | upper cutout

E
Chip

Chip edge

Chip edge

Area D: cutout by α

D

α

E

Want: α

$\vartheta_1/2$

γ

γ

α

ϑ_2

ϑ_1
Chip

$\alpha = \vartheta_2/2 - (\pi/2 - \vartheta_1/2)$

$\alpha = \vartheta_2/2 - \gamma$

Want: Area C

D
C

E
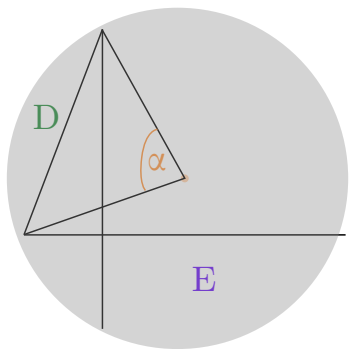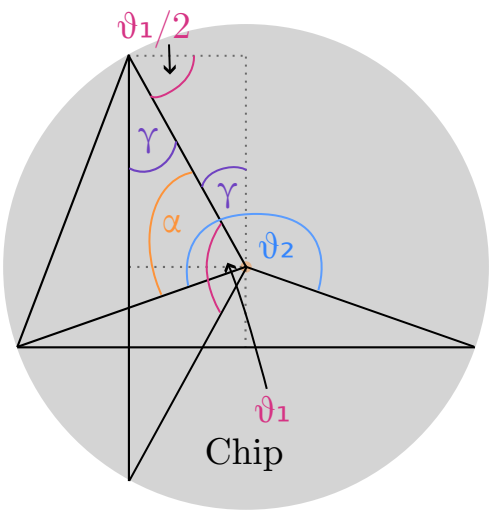
$\Delta x, \Delta y$ distance of center to edge of chip,
may be negative

γ R

y'

C

R

β

Δy

x'

Δx

$C = x' \cdot y'/2$

with
$x' = \cos\beta \cdot R - \Delta x$
$y' = \cos\gamma \cdot R - \Delta y$

Area E therefore is:
$E = F - A - B + C + D$