Circle

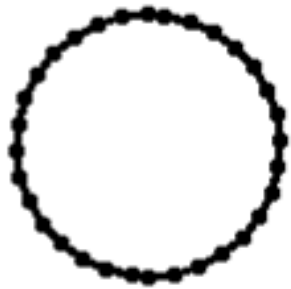## Calculation

MATH

1 Create a new object *(I. Embroidery-Objects tutorial).*

Equation of the circle:
$$(x - m\_x)^2 + (y - m\_y)^2 = r^2$$

m_x is the x-coordinate of the center.
m_y is the y-coordinate of the center.

2

When scene starts

Set variable
radius
to 50

Set variable
m_x
to 100

Set variable
m_y
to 300

Set variable
ykoord
to "m_y" - "radius"

Place at **x:** "m_x" **y:** "ykoord"

Start running stitch with length 10

This part belongs to point 2.

Repeat "radius" × 2 + 1 times

Place at **x:** square root... **y:** "ykoord"

Change variable
ykoord
by 1

End of loop

Stitch

Change variable
ykoord
by - 1

Repeat "radius" × 2 + 1 times

Place at **x:** - square roo... **y:** "ykoord"

Change variable
m_x
by - 1

End of loop

Stitch

Calculate the x-coordinate
for the right side of the circle.
Reshape the equation of the circle:

Place at **x:** 100 **y:** 200

square root(power("radius" , 2) -
power(("ykoord" - "m_y") , 2)) +
"m_x"

Tip: You find the math functions in „Functions" in the formal editor.

Calculate the x-coordinate
for the left side of the circle.

Place at **x:** - square roo... **y:** "ykoord"

- square root(power("radius" , 2) -
power(("ykoord" - "m_y") , 2)) +
"m_x"

3 If it doesn't work, control the bricks.