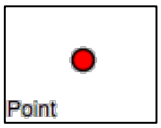
Rotate Function

Name(s):

1. Create *independent variable* x by tapping the 

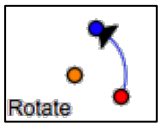
tool. Click or drag to locate x in the sketch. Then drag x around.

2. Create a center and angle for rotation by tapping the 

tool. Click or drag to place center C.

Q1 Drag point θ (not the measurement) and notice how its measurement changes. What is the smallest value you can make? What is the largest value you can make?

Smallest value:	Largest value:

3. Drag point θ to make a 90° angle . Then rotate x by tapping the 

tool. Attach glowing point x to your original point x, and attach glowing point C to your original point C. Dependent variable $R_{C,\theta}(x)$ is the "rotation around C by θ of x."

Q2 Turn on tracing and vary x to make a shape. Draw your traces in the box on the right. Be sure to show x, C, and $R_{C,\theta}(x)$.

$\theta = 90°$

Q3 Compare the speed of x and $R_{C,\theta}(x)$. Which is faster, or are their speeds the same?

Q4 On page 2 construct a rotate function using a different angle. Drag x to make a different shape, and draw the traces. Remember to show x, C, and $R_{C,\theta}(x)$.

$\theta =$ ____°

Q5 Drag x again to try to find fixed points (where x and $R_{C,\theta}(x)$ come together). How many could you find, and where were they?