

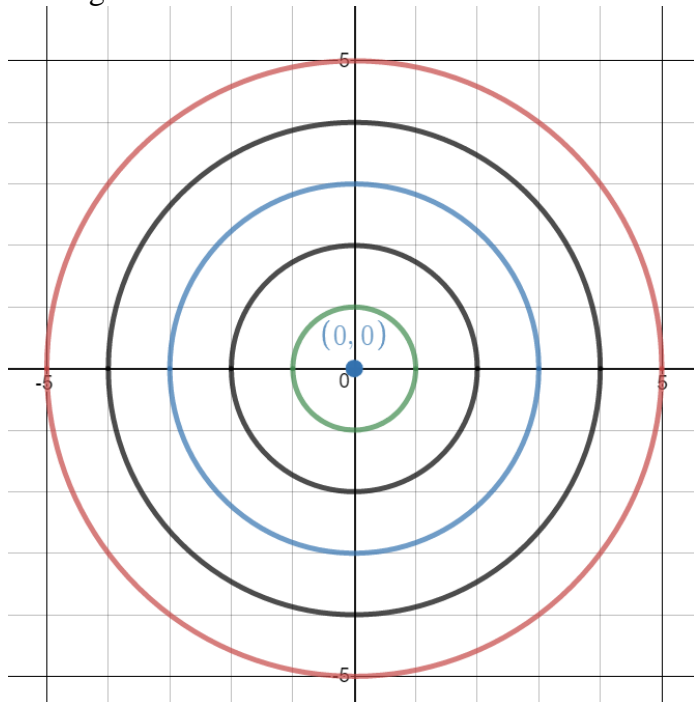
Equation of a Circle with
Center $(0,0)$ and radius r


$$x^2 + y^2 = r^2$$

Equation of a Circle with
Center (h,k) and radius r

$$(x-h)^2 + (y-k)^2 = r^2$$

- 1) Create this graph in Desmos and show your teacher. If you are ready to move on and your teacher is busy, open a new tab with Desmos and try the next graph. Enter $x^2 + y^2 = 1$ in Desmos to get the smallest circle and then find the others.



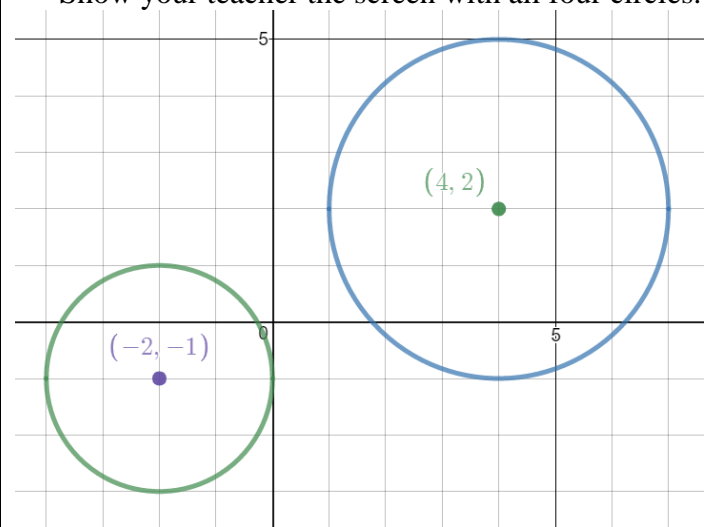
- 2) Type:  $(x-4)^2 + (y-2)^2 = 9$

To get the circle on the right. Then on a new line find the equation of the circle on the left. Add two other circles

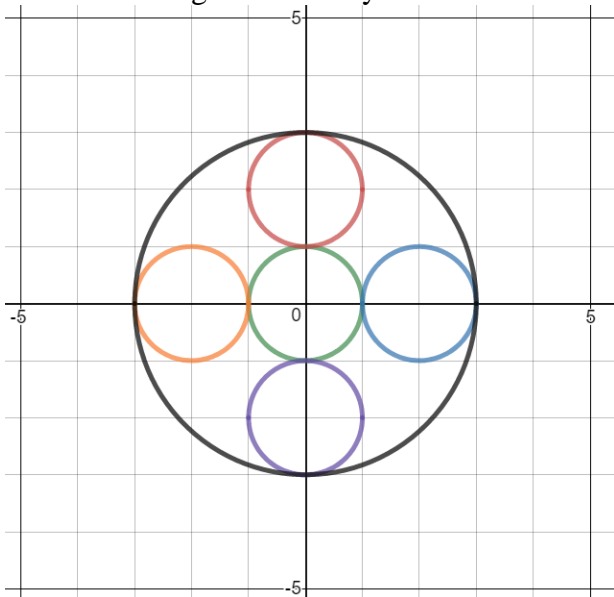
(A) center $(-3,4)$ and radius 1

(B) center $(2,-1)$ with radius 4

Show your teacher the screen with all four circles.



- 3) Make this design and show your teacher.



- 4) Input these equations and then continue the graph to complete the drawing and show your teacher.



- 5) Option 1: Make a new design with at least 4 circles and two lines.

- Option 2: Graph $x^2 + y^2 = 25$ and the line tangent to the circle at $(3,4)$.