

Matching circles and equations

Problem

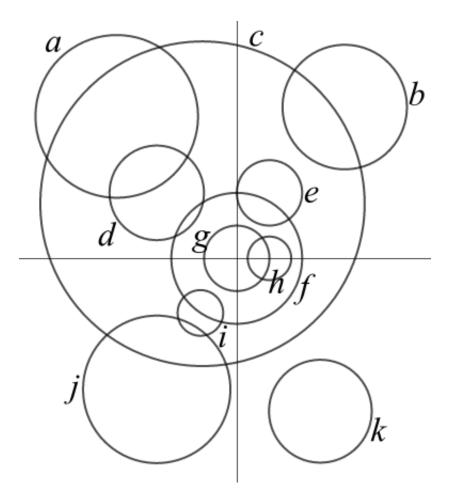


Figure G2_RT7_2.1: Circles

We have thought of 13 circles. Some of them are represented in the above diagram, with the labels of the *x*-axis and *y*-axis removed. Here are equations for some of the circles.

1.
$$(x+10)^2 + (y+15)^2 = 4\pi^2$$

2.
$$x^2 + y^2 = 324$$

3.
$$(x + 22)^2 + (v + 36)^2 = 411$$

4.
$$(x + 3\pi)^2 + (y - 15)^2 = 1990$$

2.
$$x + y = 324$$

3. $(x + 22)^2 + (y + 36)^2 = 411$
4. $(x + 3\pi)^2 + (y - 15)^2 = 1990$
5. $(x - 21\sqrt{2})^2 + (y - 24\sqrt{3})^2 = 131\sqrt{5}$
6. $(x + 33)^2 + (y - 39)^2 = 500$
7. $x^2 + y^2 = 9$

6.
$$(x+33)^2 + (y-39)^2 = 500$$

7.
$$x^2 + v^2 = 9$$

8.
$$(x-23)^2 + (y+42)^2 = 200$$

9.
$$x^2 + y^2 = 81$$

10.
$$(x - 18)^2 + (y + 36)^2 = 1990$$

11.
$$(x-9)^2 + y^2 = 36$$

Can you match them up, find the missing equations and construct the remaining circles on the diagram?







Relevance



G2 What is the connection between algebra and geometry, and how can we exploit it?

Multiple representations