DETAILED PROBLEMS AND SOLUTIONS - CIRCLES AND SEMICIRCLES

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PLEASE NOTE THAT YOU CANNOT ALWAYS USE A CALCULATOR ON THE ACCUPLACER - COLLEGE-LEVEL MATHEMATICS TEST! YOU MUST BE ABLE TO DO SOME PROBLEMS WITHOUT A CALCULATOR!

$$y = -\sqrt{r^2 - (x-h)^2} + k$$

Problem 1:

Given the equation of a circle $(x+2)^2 + (y-7)^2 = 9$, find the coordinates of its center and its radius.

Problem 2:

Given the equation of a circle $x^2 + y^2 + 4x - 6y - 23 = 0$, find the coordinates of its center and its radius.

Problem 3:

Given the equation of a circle $x^2 + y^2 = 36$

a. find the coordinates of its center and its radius
b. find the coordinates of the x- and y-intercepts

Problem 4:

Given the equation of a circle $x^2 + y^2 = 9$

a. find the coordinates of its center and its radius
b. find the coordinates of the x- and y-intercepts

Problem 5:

Find the equations for the upper and lower half of the circle $x^2 + y^2 = 7$.

Problem 6:

Find the equations for the upper, lower, right, and left half of the circle $x^2 + y^2 = 9$.

SOLUTIONS

You can find detailed solutions below the link for this problem set!

1. ***C = (-2, 7), r = 3***	2. ***C = (-2, 3), r = 6***	3. ***C = (0, 0), r = 6*** ***(-6, 0), (6, 0)*** ***(0, -6), (0, 6)***
4. ***C = (0, 0), r = 3*** ***(-3, 0), (3, 0)*** ***(0, -3), (0, 3)***	5. Upper $y = \sqrt{7 - x^2}$ Lower $y = -\sqrt{7 - x^2}$	6. Upper $y = \sqrt{9 - x^2}$ Lower $y = -\sqrt{9 - x^2}$ Right $x = \sqrt{9 - y^2}$ Left $x = -\sqrt{9 - y^2}$