

Practice with Circles Sudoku

Name Key

Directions: Solve each problem and place the answer in the indicated column and row of the puzzle. (You may need to use a scrap sheet of paper for your work.) When finished, solve the remaining Sudoku puzzle. Remember, each row, each column, and each 3x3 square should have the numbers 1 – 9, with no repetition. Hint: Answers should be **positive integers**.

	A	B	C	D	E	F	G	H	I
1	8	5	2	3	9	7	4	6	1
2	3	9	1	6	4	8	2	7	5
3	4	6	7	1	2	5	9	8	3
4	2	4	5	8	1	9	7	3	6
5	1	3	8	7	6	4	5	9	2
6	9	7	6	5	3	2	8	1	4
7	6	2	9	4	8	1	3	5	7
8	7	8	3	2	5	6	1	4	9
9	5	1	4	9	7	3	6	2	8

1. Identify the radius of $x^2 + y^2 = 9$. $r=3$ E-6 3
2. Identify the radius of $(x+2)^2 + (y-4)^2 = 49$. $r=7$ E-9 7
3. Identify the x-coordinate of the center: $(x-5)^2 + (y+3)^2 = 16$. $C(5, -3)$ F-3 5
4. Identify the y-coordinate of the center: $(x+6)^2 + (y-4)^2 = 81$. $C(-6, 4)$ D-7 4
5. Identify the radius of $x^2 + y^2 - 6x - 2y - 15 = 0$. $r=5$ G-5 5
 $x^2 - 6x + 9 + y^2 - 2y + 1 = 15 + 9 + 1$
 $(x-3)^2 + (y-1)^2 = 25$
6. Identify the y-coordinate of the center: A-4 2
 $x^2 - 2x + 1 + y^2 - 4y + 4 = 4 + 1 + 4$
 $(x-1)^2 + (y-2)^2 = 9$
7. Identify the x-coordinate of the center: I-4 6
 $x^2 - 12x + 36 + y^2 - 16y + 64 = -84 + 36 + 64$
 $(x-6)^2 + (y-8)^2 = 16$
8. Identify the y-coordinate of the center: B-4 4
 $x^2 + 6x + 9 + y^2 - 8y + 16 =$
 $(x+3)^2 + (y-4)^2$
9. Identify the radius of the circle that has a center of (4, 2) and passes through the point (1, 6). A-9 5
 $\sqrt{(4-1)^2 + (2-6)^2} = \sqrt{9+16} = \sqrt{25} = 5$
10. Identify the y-coordinate of the center of a circle that passes through the points (-6, 7) and (4, -1). B-5 3
 $C: (\frac{-6+4}{2}, \frac{7+(-1)}{2}) = (-1, 3)$
11. Identify the radius of $x^2 + y^2 - 8x + 4y - 44 = 0$. E-7 8
 $x^2 - 8x + 16 + y^2 + 4y + 4 = 44 + 16 + 4$
 $= 64$
12. Identify the x-coordinate of the center of a circle that has endpoints on its diameter of (11, -2) and (7, -8). A-6 9
 $Center(\frac{11+7}{2}, \frac{-2+(-8)}{2}) = (9, -5)$