NAME:_____

1. Find the center and radius of $x^2 + y^2 - 8x + 2y + 8 = 0$.

   [A] center (4, –1); $r = 3$

   [B] center (–4, 1); $r = 3$

   [C] center (4, –1); $r = 9$

   [D] center (–4, 1); $r = 9$

2. Find the center and radius of $x^2 + y^2 - 12x - 8y + 27 = 0$.

   [A] center (–6, –4); $r = 25$

   [B] center (6, 4); $r = 25$

   [C] center (–6, –4); $r = 5$

   [D] center (6, 4); $r = 5$

3. Compare the quantity in Column A with the quantity in Column B.

   $x^2 - 4x + y^2 + 10y - 7 = 0$

Column A	Column B
x - coordinate of the center	y - coordinate of the center

   [A] The quantity in Column A is greater.

   [B] The quantity in Column B is greater.

   [C] The two quantities are equal.

   [D] The relationship cannot be determined on the basis of the information supplied.

4. Find the center and radius of $x^2 + y^2 + 8x - 10y + 37 = 0$.

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5. Find the center and radius of $x^2 + y^2 + 6x - 2y - 15 = 0$.

6. Describe the translation that would produce the equation $x^2 + y^2 - 2x + 6y + 3 = 0$.

7. Change the equation to standard form and name the figure. $4x^2 + 4y^2 + 24x - 32y + 80 = 0$

8. Change the equation to standard form and name the figure. $3x^2 + 3y^2 + 12x - 24y + 57 = 0$

9. Change the equation to standard form and name the figure. $4x^2 + 4y^2 - 40x + 48y + 224 = 0$

10. Change the equation to standard form and name the figure. $4x^2 + 4y^2 - 8x + 40y + 92 = 0$

[1] A

[2] D

[3] A

[4] center (–4, 5); $r = 2$

[5] center (–3, 1); $r = 5$

[6] Answers may vary. Sample: A circle with center (0, 0) and radius $\sqrt{7}$ is moved 1 unit to the right and 3 units down.

[7] $(x+3)^2 + (y-4)^2 = 5$; The figure is a circle.

[8] $(x+2)^2 + (y-4)^2 = 1$; The figure is a circle.

[9] $(x-5)^2 + (y+6)^2 = 5$; The figure is a circle.

[10] $(x-1)^2 + (y+5)^2 = 3$; The figure is a circle.