NAME:_____

P.I. A2.A.47: Determine the center-radius form for the equation of a circle in standard form

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

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

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

6. 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.

[1] A

[2] D

[3] center (–4, 5); $r = 2$

[4] center (–3, 1); $r = 5$

[5] 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.

[6] A