

Name: _____

1. (20 points) Find the center and radius of a circle with the following equation. Show all work.

$$x^2 + y^2 - 6x - 10y + 27 = 0$$

2. Let $A(-1, 3)$ and $B(9, 6)$ be the endpoints of the diameter of a circle. Show all work for each of the following.

(a) (3 points) Find the **center** of the circle.

(b) (3 points) Find the **radius** of the circle.

(c) (3 points) Find the **equation** of the circle.

3. Graph the equation $y = 2x^3 - 1$ on the viewing rectangle $[-3, 3]$ by $[-5, 3]$.

(a) (3 points) Sketch the graph as you see it on the calculator.

(b) (2 points) Using your calculator, approximate the x-intercept to two decimal places.