College Algebra	Name:
Study Guide 3	Class:
Due Date:	Score:

No Work $\Leftrightarrow$ No Points

Use Pencil Only $\Leftrightarrow$ Be Neat & Organized

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1. **Consider** $(x+2)^2 + (y-3)^2 = 4$,
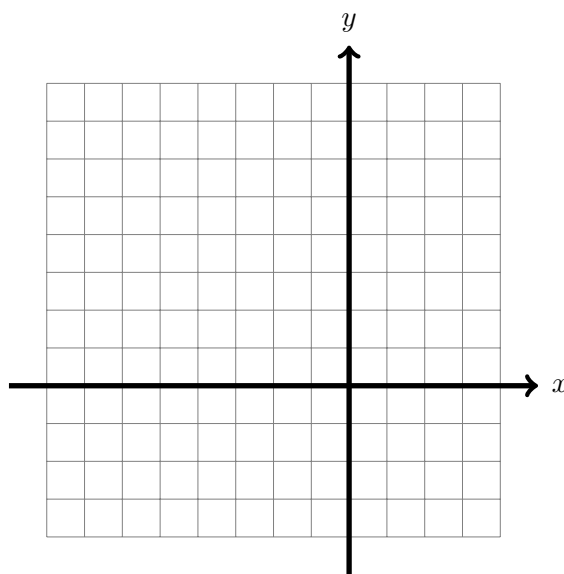
   (a) **(2 points) Find its center.**

   (a) _____

   (b) **(2 points) Find its radius.**

   (b) _____

   (c) **(3 points) Graph.**

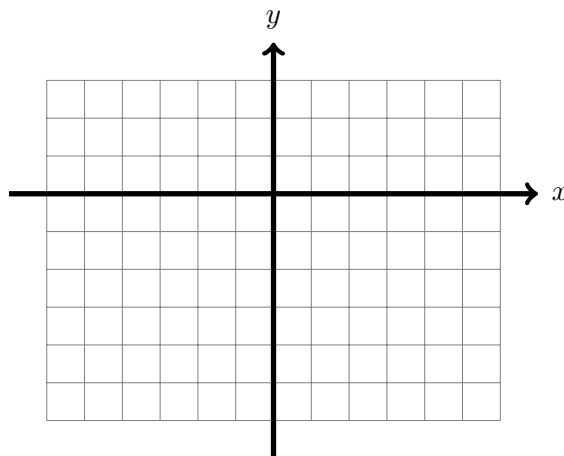2. **(2 points) What is the equation of a circle with radius 1 and centered at the origin?**

   2. _____

3. Consider $x^2 + (y + 3)^2 - 6 = 3$,

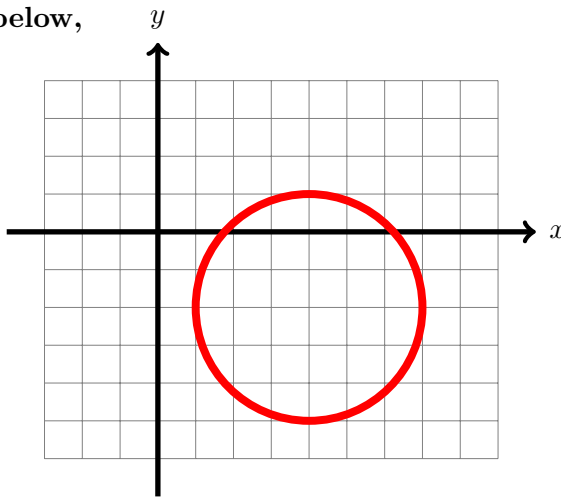   **(a) (3 points) Find its center and radius.**

                                                         (a) _____

    (b) (3 points) Graph.

4. Consider the graph below,

    (a) (3 points) Find its center and radius.
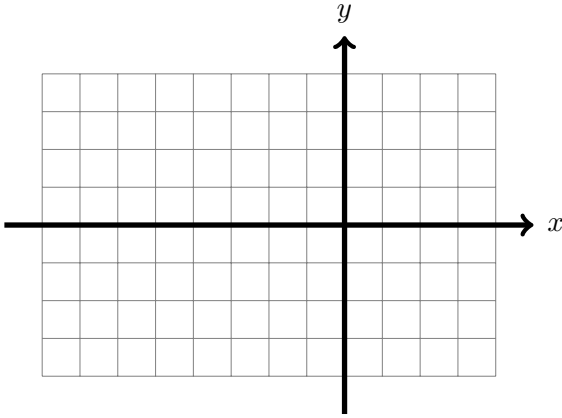
                                                           (a) _____

    (b) (3 points) Find its equation in $(x - h)^2 + (y - k)^2 = r^2$ form.

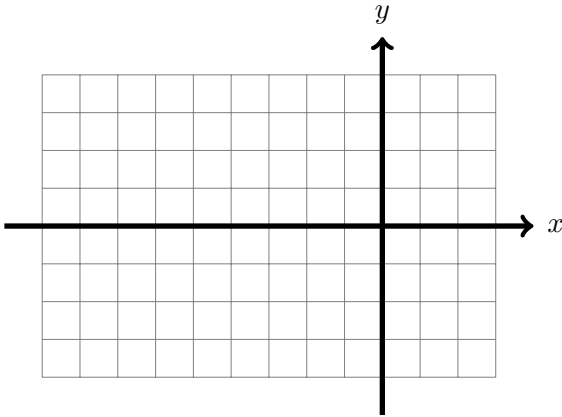   **(b)** _____

5. Consider the point $A(-4, 3)$,

    (a) **(4 points)** Draw and find the equation of a circle with center at point $A(-4, 3)$ and tangent to the $x-$axis.

(a) _____

    (b) **(4 points)** Draw and find the equation of a circle with center at point $A(-4, 3)$ and tangent to the $y-$axis.

(b) _____

6. Consider $y = 2x + 8$,

    (a) **(2 points)** Find all its $y-$intercept.

(a) _____

    (b) **(2 points)** Find all its $x-$intercept.

(b) _____

7. **Consider** $y = x^3 - 10x^2 + 25x$,

    (a) **(2 points)** Find all its $y-$intercept.

                                                     (a) _____

    (b) **(4 points)** Find all its $x-$intercept.

                                                     (b) _____

8. **Consider** $y = |2x + 3| - 7$,

    (a) **(2 points)** Find all its $y-$intercept.

                                                     (a) _____

    (b) **(4 points)** Find all its $x-$intercept.

                                                     (b) _____

9. **Algebra Review Problems:**

    (a) **(2 points)** Simplify: $\dfrac{x^2 - 2x - 24}{x^2 - 36}$

                                                     (a) _____

    (b) **(3 points)** Simplify: $\dfrac{x^2 + 4x + 3}{x^2 - 1} \div \dfrac{x^2 + 2x - 3}{x^2 - 2x + 1}$

                                                     (b) _____