

Name: \_\_\_\_\_

Math 121 College Algebra – Crawford

Quiz 2-A(1)

22 February 2017

Books and notes (in any form) are not allowed. You may use a calculator (**CALCULATOR NUMBER:** \_\_\_\_\_).  
*Show all work for full credit* and clearly indicate your answers. Good Luck!

The following formula may or may not be helpful.  $(x - h)^2 + (y - k)^2 = r^2$

---

1. (2 pts) Determine whether the following equation has symmetry with respect to the origin. [You must show work and clearly state your conclusion.]

$$y = \frac{x}{x^2 + 1}$$

2. (2 pts) Write the standard form of the equation of the circle with center  $(-3, 0)$  and radius 2.

3. (3 pts) Solve the following equation for  $x$ . If there is no solution or infinitely many solutions, clearly state so.

$$-2(x + 3) + 4 = 2x - 5$$

4. (4 pts) Solve the following equation for  $x$ . If there is no solution or infinitely many solutions, clearly state so.

$$\frac{x}{x-3} - \frac{3}{x-3} - 2 = 0$$

5. (4 pts) 100 feet of fencing will be used to enclose a rectangular animal pen. The width of the pen must be 12 feet. See the figure below. Complete the steps below to find the length of the pen.

(a). Write down a mathematical model for the problem. [You must write down a mathematical model for full credit.]

[Hint: The amount of fencing is the perimeter.]

(b). Solve the mathematical model, to find the length of the pen.

