Pre-Calculus Name:
Chapter 2 Quiz 1 Date: Period:

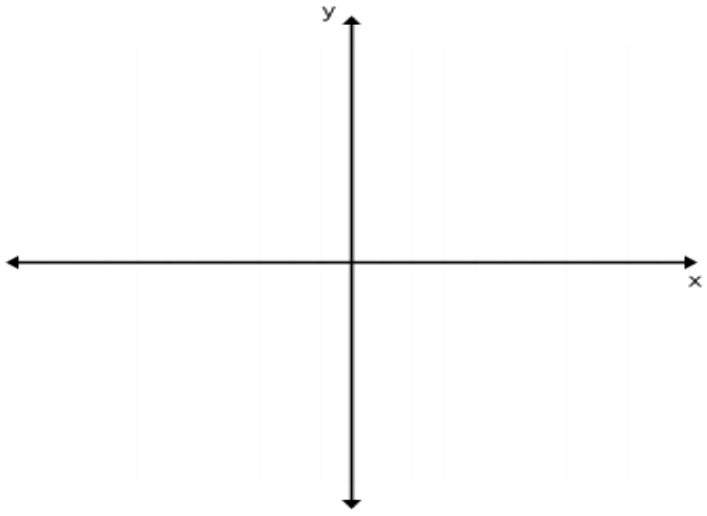
No Graphing Calculators Allowed!

1. Write the standard form of the equation of the parabola that has a vertex at $(-8, -3)$ and passes through the point $(-6, 2)$.

2. Describe the end behavior of the graph of $n(x) = -5x^4 + 10x^3 - 7$. How do you know?

3. Find all real zeros of the polynomial $f(x) = x^4 - 13x^2 + 36$ and determine the multiplicity of each.

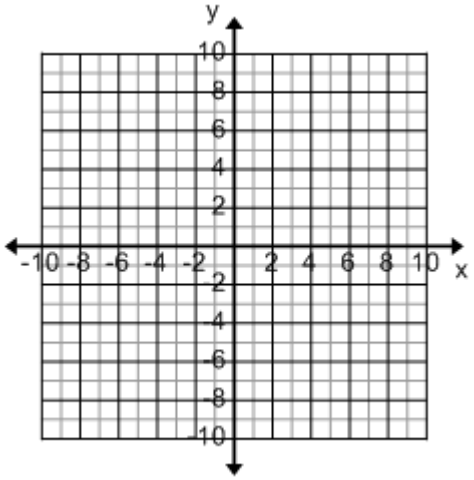
4. Graph the function in #3.



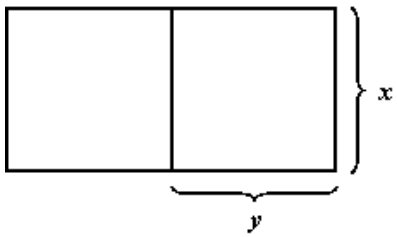
5. **True/ False.** The function $f(x) = -17x^2 - 16$ has no x-intercepts.

   a. True b. False

6. Graph of the function $y = 2(x-5)^2 + 1$.



7. A farmer has 336 feet of fencing and wants to build two identical pens for his prize-winning pigs. The pens will be arranged as shown. Find the equation you need to graph to determine the maximum area.
Set up the equation only. You DO NOT need to solve it.



8. A small theater has a seating capacity of 2000. When the ticket price is \$20, attendance is 1500. For each \$1 decrease in price, attendance increases by 105. Write the equation you need to graph to find the maximum revenue. You DONOT need to solve the problem, just set it up.

9. **Multiple Choice.** Determine the *x*-intercept(s) of the quadratic function $f(x) = x^2 + 4x - 32$.
   a. $(-4, 0), (8, 0)$
   b. $(0, 0), (7, 0)$
   c. $(4, 0), (-8, 0)$
   d. $(0, 0), (-7, 0)$
   e. no *x*-intercept(s)

10. Were there any surprises on this quiz? If so, tell me about them.