Name_____ Date_____ Period_____

Day #43 Homework

Given the following implicitly defined equations, analytically determine what type(s) of symmetry, if any, the graph of the question would exhibit. Show your work.

1. $y^2 - xy = 2$	2. $y = x\|x\|$
3. $x^2 + xy = 4$	4. $x^2 + y^2 = 2\|x\|$

Answer questions 5 – 8 with the following types of basic functions in mind.

Linear	Absolute Value	Quadratic
$F(x) = x$	$F(x) = \lvert x \rvert$	$F(x) = x^2$
Cubic	Cube Root	Square Root
$F(x) = x^3$	$F(x) = \sqrt[3]{x}$	$F(x) = \sqrt{x}$

5. Which of the above functions have graphs that exhibit y – axis symmetry? Give a reason.	6. Which of the above functions have graphs that exhibit origin symmetry? Give a reason.
7. Which of the above functions have graphs that exhibit $y = x$ symmetry? Give a reason.	8. Which of the above functions have graphs that exhibit x – axis symmetry? Give a reason.