



## Precalculus

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

### Section 3.4A – Worksheet (Symmetry)

Date: \_\_\_\_\_ Hour: \_\_\_\_\_

I. Use the tests for symmetry to determine what type of symmetry (if any) each equation has. Show your work.

- $y$ -axis symmetry (EVEN function) – Replace  $x$  with  $-x$ .
- $x$ -axis symmetry – Replace  $y$  with  $-y$ .
- Origin symmetry (ODD function) – Replace  $x$  with  $-x$  and  $y$  with  $-y$ .

You need to know these for your quiz!

II. Use a graphing calculator to graph each equation to confirm your results.

1.  $y = -x^5 - x^3 + x$

2.  $y^6 = -x^3 + x$

3.  $y = x|x|$

4.  $y = |x| - 1$

5.  $y = \frac{x^2}{1-x^2}$

6.  $y = \frac{x}{1-x^2}$

### ANSWERS

1. Origin symmetry (odd)
2.  $x$ -axis symmetry
3. Origin symmetry (odd)

4.  $y$ -axis symmetry (even)
5.  $y$ -axis symmetry (even)
6. Origin symmetry (odd)

