

Name: _____

Unit 2: Functions & Their Graphs

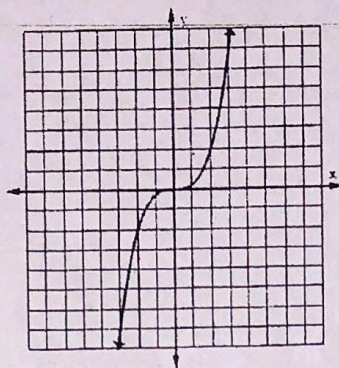
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Homework 4: Tests for Symmetry;
Even and Odd Functions

**** This is a 2-page document! ****

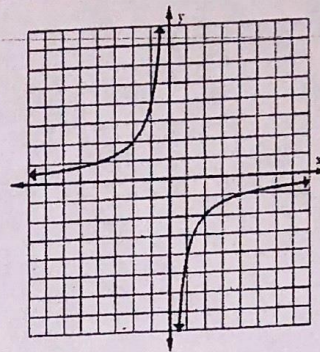
Directions: Use the graph to determine if the relation is symmetrical to the x -axis, y -axis, and/or origin. Confirm your answer algebraically.

1. $y = \frac{1}{4}x^3$



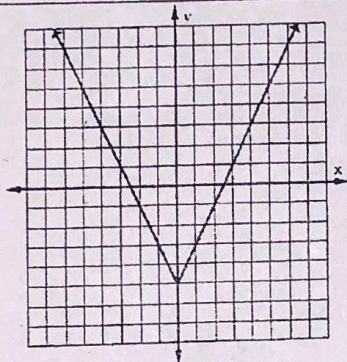
- y-axis
- origin
- none

2. $xy = -4$



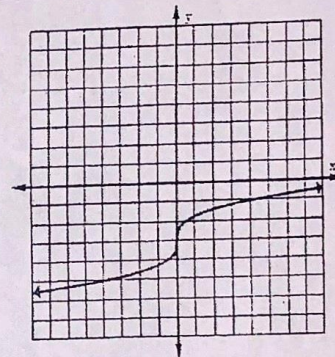
- y-axis
- origin
- none

3. $y = |2x| - 5$



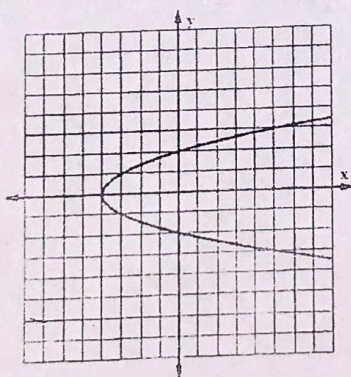
- y-axis
- origin
- none

4. $y = \sqrt[3]{2x} - 3$



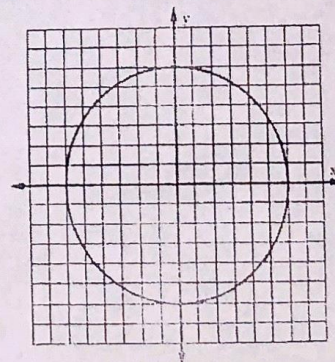
- y-axis
- origin
- none

5. $y^2 - x = 4$



- y-axis
- origin
- none

6. $x^2 + y^2 = 36$



- y-axis
- origin
- none

Directions: Determine algebraically if the function is even, odd, or neither. If even or odd, describe the symmetry.

9. $f(x) = -3x^4 + 7x^2 - 1$

10. $f(x) = \frac{x}{7}$

11. $f(x) = x - 4$

12. $f(x) = \cancel{5x^4} 5x^2 + x$

13. $f(x) = -4x^4 + 9x^2$

14. $f(x) = x^2 + 2x - 5$

15. $f(x) = 2x - 9$

16. $f(x) = 5x^2$