

# Chapter 3

## Worksheet 3D

Name \_\_\_\_\_

Period \_\_\_\_\_

**Directions:** Determine whether each function below is even, odd, or neither. Explain.

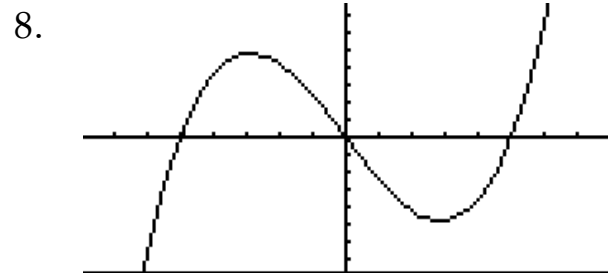
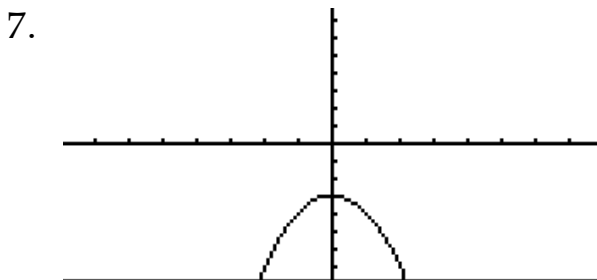
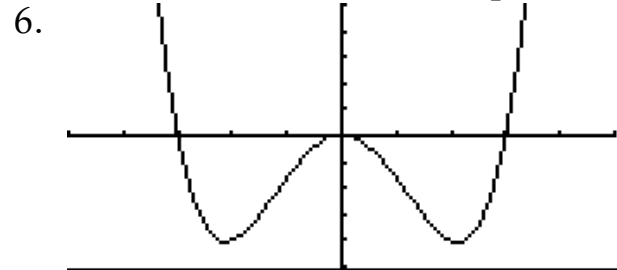
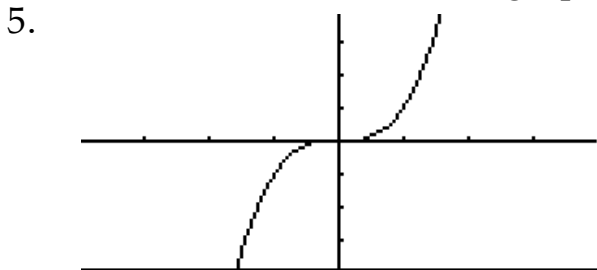
1.  $y = 5x^{10} - 3x^4 + 2$

2.  $w = 10x^9 - 2x^3 + x$

3.  $f(x) = |x|$

4.  $g(x) = \left| \frac{1}{x} \right|$

**Directions:** Determine which graphs below are even, odd or neither. Explain.

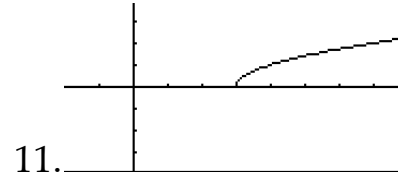


**Directions:** Find the inverse of the following functions.

f(x)	
x	y
2	3
-1	$\pi$
$\sqrt{3}$	0

9.

10.  $y = \frac{x}{x+4}$



**Directions:** On a separate sheet of graph paper sketch each function. Make sure you number and label each graph. Plot at least 2 points for accuracy.

12.  $y = -(x^2 + 1) - 2$

13.  $y = |x^2 - 4|$

14.  $y = [x] + 2$

15.  $y = -\sqrt{|x|}$

16.  $f(x) = \begin{cases} |x + 2| & \text{if } x \leq 2 \\ \sqrt{x + 2} & \text{if } x > 2 \end{cases}$

17.  $w(x) = \begin{cases} x - 2 & \text{if } x \neq 3 \\ 5 & \text{if } x = 3 \end{cases}$

18. Let  $f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ 3 & \text{if } x = 0 \\ -\sqrt{x} & \text{if } x > 0 \end{cases}$

Sketch  $f(x)$ ,  $-f(x)$ ,  $f(-x)$ ,  $|f(x)|$ , and  $f(|x|)$ .