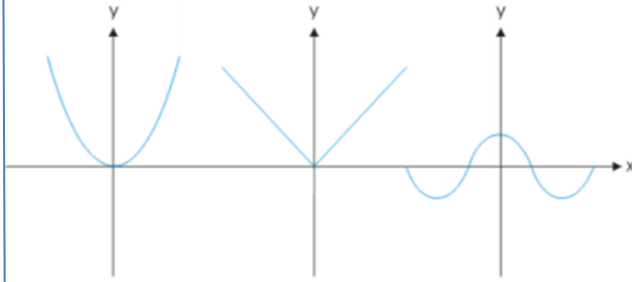


4.2 Even and Odd Functions

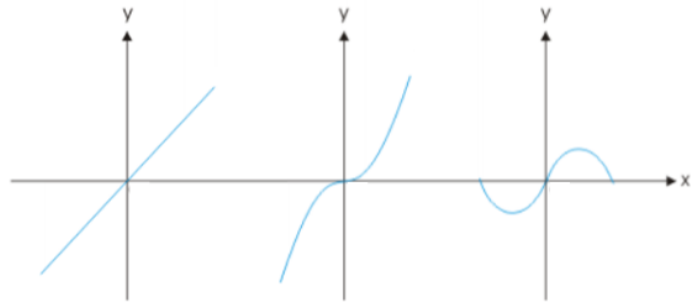
Pre-Calculus

Write your questions here!

EVEN FUNCTIONS

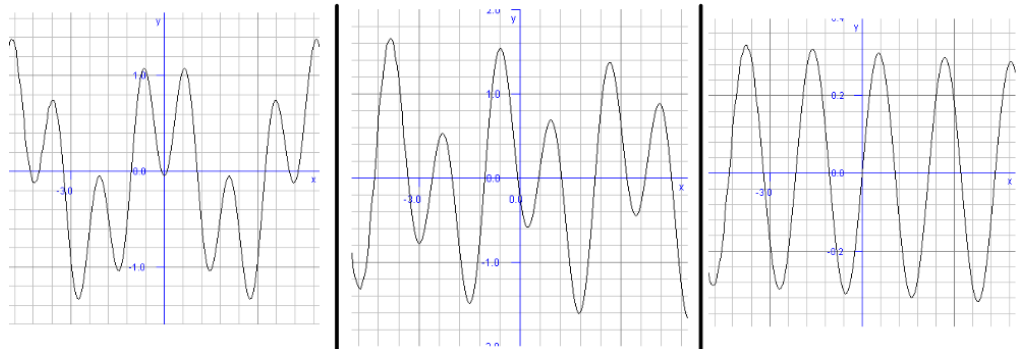


ODD FUNCTIONS

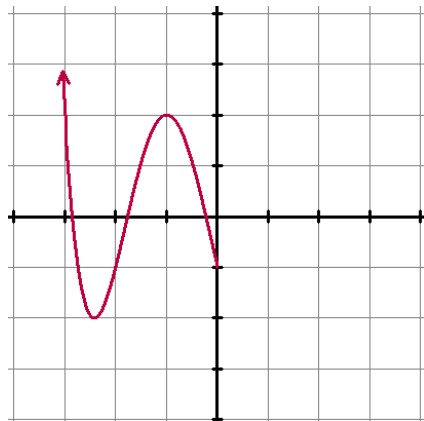


Are the functions Even, Odd, or Neither?

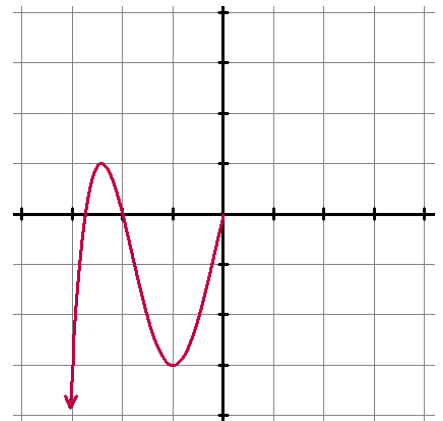
Graphically



EVEN



ODD



Are the functions Even, Odd, or Neither?

Algebraically

$$f(x) = -2x^3 + 5x$$

$$f(x) = \frac{x^2 + 1}{|x|}$$

$$f(x) = \frac{x^4}{x^3 - 1}$$

SUMMARY:

Now,
summarize
your notes
here!



Determine algebraically whether each function is even, odd, or neither. SHOW WORK!

1. $y = x^3 + x$

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

3. $y = x^4 + 3x^2$

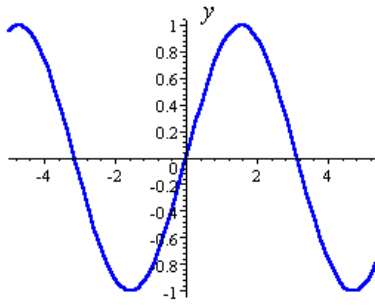
4. $g(x) = \frac{4 + x^2}{1 + x^4}$

5. $h(x) = \frac{x}{1 + x^2}$

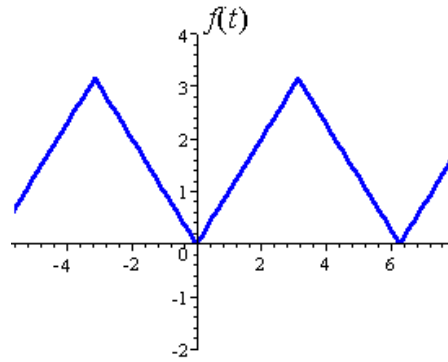
6. $f(x) = \frac{x^5 - 2x^3 - x}{x^2 + 1}$

Use the graph to determine if the function is even, odd, or neither.

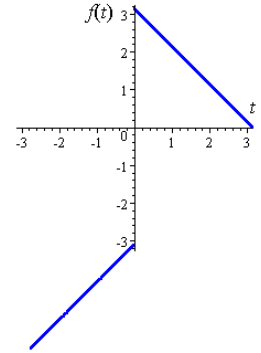
7.



8.



9.



Use the table to determine if the function is even, odd, or neither.

10.

x	y
-4	-128
-5	-250
-6	-432
4	128
5	250
6	432

11.

x	y
-3	-11
-2	3
-1	5
1	-3
2	-1
3	13

12.

x	y
-3	-5
-2	0
-1	3
1	3
2	0
3	-5

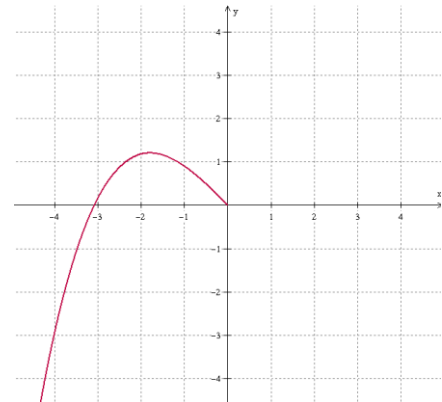
Given the $f(x)$ is even, fill in the table.

13.

x	$f(x)$
-5	10.5
7	
	38.5
-7	22.5
5	
9	38.5

Given that the $f(x)$ is continuous on $(-5, 5)$ and odd, draw the graph $f(x)$ from $(0, 5)$

14.

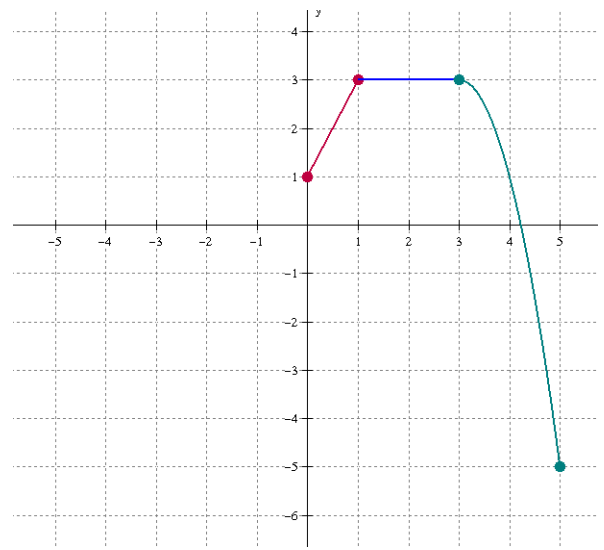


REVIEW SKILLS

Use the quadratic formula to solve. Express your solution(s) in exact and decimal form.

1. $9x^2 - 3x = -4$

2. $9k^2 - 20 = -12k$

<p>Determine algebraically whether each function is even, odd, or neither. SHOW WORK!</p>	<p>Given that the $f(x)$ is continuous on $(-5, 5)$ and even, draw the graph $f(x)$ from $(0,5)$</p>
<p>1. $f(x) = 1 - x - x^3$</p>	<p>2.</p> 

3. Show that the piecewise function is odd or even. Don't be lame and just guess one. Justify your answer!!

$$f(t) = \begin{cases} e^t, & -\pi \leq t < 0 \\ e^{-t}, & 0 \leq t < \pi \end{cases}$$

DON'T FREAK OUT!!! Break down each part. You know what it all is, it just looks confusing. I left lots of room for your justification. You're welcome.

For 4-9, use the piecewise function $g(x)$.

$$g(x) = \begin{cases} -3x + 2, & 0 < x \leq 2 \\ (x - 2)^2 - 4, & 2 < x \leq 4 \\ -1, & 4 < x \leq 5 \end{cases}$$

4. Graph the $g(x)$ below.
5. Given that the function is odd from $[-5, 5]$, draw in the missing portion on the interval $[-5, 0)$
6. State the intervals where the function is continuous.
7. Identify the points of discontinuity and label them removable, nonremovable jump, or nonremovable infinite.

8. Write the equation of the piecewise function from $[-5, 0)$

$$g(x) = \left\{ \begin{array}{l} \\ \\ \\ \end{array} \right.$$

9. Find:

a. $g(4) =$

b. $g(-5) =$

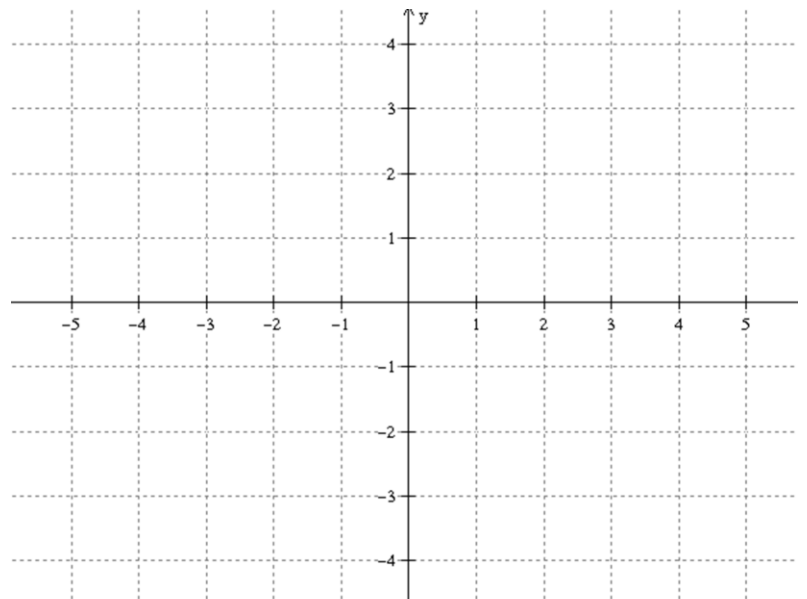
c. Find x if $g(x) = -2$

d. y -intercept =

e. x -intercept(s) =

f. Domain =

g. Range =



h. $\lim_{x \rightarrow 4^-} g(x) =$

i. $\lim_{x \rightarrow 0^+} g(x) =$

j. $\lim_{x \rightarrow -4} g(x) =$