Precalculus
1.2-1.3 Review
*** Indicates Calculator OK!*

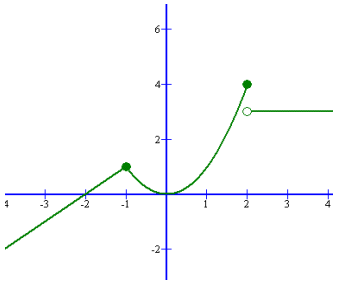
Name:
Period:

Don't forget about the 11 basic functions and all of their properties, including:

- ***Domain & Range***
- ***Increasing, Decreasing, Constant Intervals***
- ***Boundedness***
- ***Extrema (Local & Absolute Max/Min)***
- ***Even/Odd/Neither***

(#1-3) Identify whether each of the following is a function or relation.

1.



2. $x^2 + y^2 = 16$

3.

x	-2	-1	0	1	2
f(x)	9	6	5	6	9

(#4-6) Find the domain of the function algebraically. State the answer in interval notation.

4. $y = \sqrt{25 - x^2}$

5. $y = \sqrt{x^4 - 36x^2}$

6. $y = \dfrac{x+3}{(x-3)\sqrt{x+5}}$

(#7-9) State the domain and range of each function using interval notation. ***You may use your calculator to find the range**, but NOT the domain.***

7. $y = 3x^2 + 18$

8. $y = -2|x| + 1$

9. $y = \sqrt{2x - 9} + 3$

Domain:

Range:

Domain:

Range:

Domain:

Range:

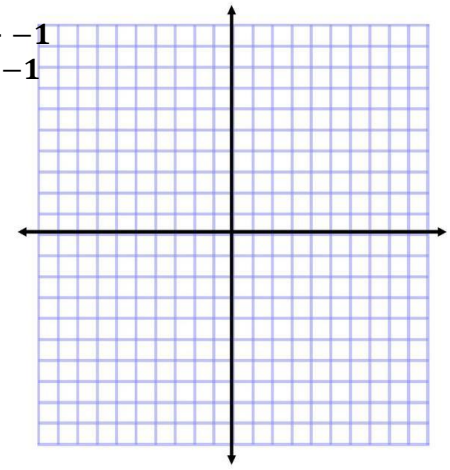
(#10-12) Classify the following functions as even, odd or neither. Do so both graphically and algebraically.**

10. $y = 5x - 1$

11. $y = 3x^2 + 18$

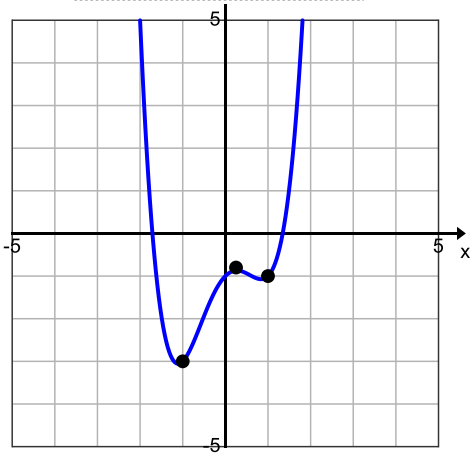
12. $y = x^3 - x$

13. **Graph the following piecewise function:** $f(x) = \begin{cases} -x^2 - 5, x > -1 \\ 2x + 1, x \leq -1 \end{cases}$



(#14-18) Use the graph below to evaluate the following:**

$y = x^4 - 2x^2 + x - 1$



14. *(Circle One)*: Even / Odd / Neither

15. *(Circle One)*: Bounded Above / Bounded Below/ Bounded

16. *Intervals of*:

Increasing: _____

Decreasing: _____

17. *Relative*: Max: _____

Min: _____

18. *Absolute*: Max: _____

Min: _____