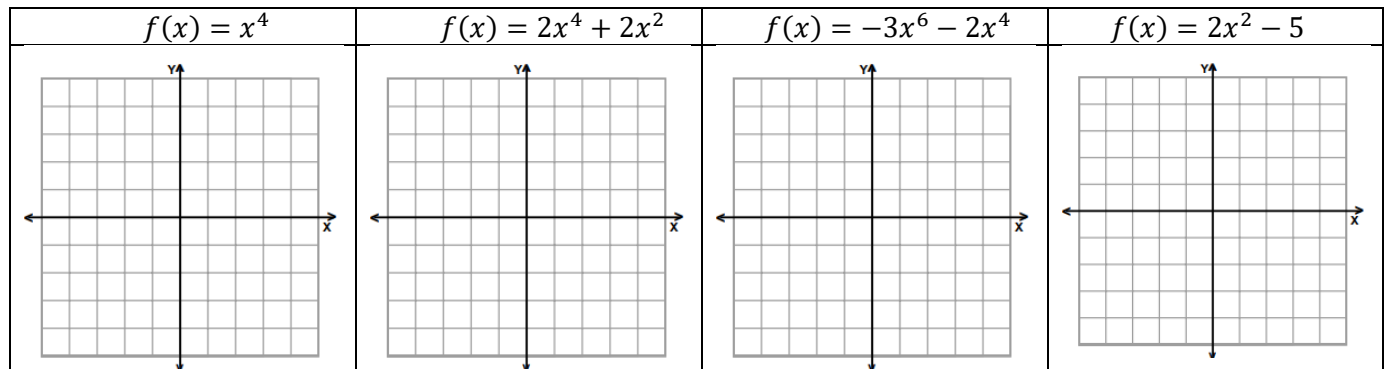
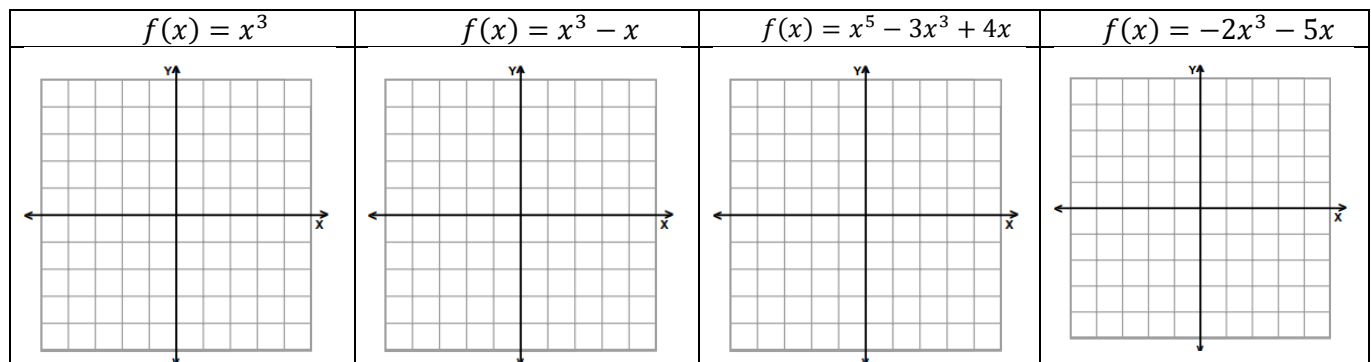


1. Use your graphing calculator to graph each of the following functions. Draw a sketch of the graph. Be as precise in your sketch as possible!



2. All of the above functions are called **EVEN** functions.
- What type of symmetry does each graph have?
 - What is special about the exponents on the variables of each term in the functions?
 - What happens when you evaluate $f(-x)$ for each of the functions?

3. Use your graphing calculator to graph each of the following functions. Draw a sketch of the graph. Be as precise in your sketch as possible!



4. All of the above functions are called **ODD** functions.
- What type of symmetry does each graph have?
 - What is special about the exponents on the variables of each term in the functions?
 - What happens when you evaluate $f(-x)$ for each of the functions?

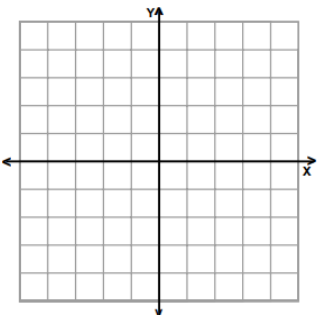
5. In general,
- An EVEN function has the following properties:
 - Its graph is symmetric about the _____
 - The exponents of all terms in its equation are _____
 - $f(-x) =$ _____
 - An ODD function has the following properties:
 - Its graph is symmetric about the _____
 - The exponents of all terms in its equation are _____
 - $f(-x) =$ _____

6. Consider the function $f(x) = x^3 - x^2 + x$, would it be even or odd? Investigate all three properties from above.

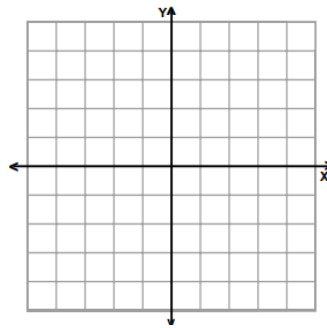
*The function above is **NEITHER** even nor odd.

7. Determine whether each of the following is even, odd or neither. You must justify your answer by discussing all three properties.

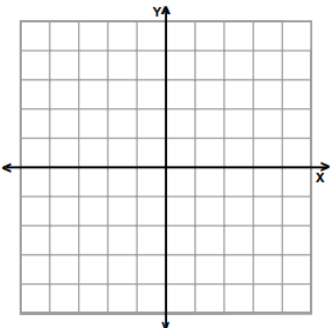
a. $f(x) = -\frac{1}{2}x^4 + 3x^2$



b. $f(x) = -x^2 + x$



c. $f(x) = x^5 + 2x^3 - 4x$



d. $f(x) = x^3 - 4x + 6$

