3.4 Transformations of Cubic and Quartic Functions

Math Learning Target:
"I can describe and perform transformations on the parent functions $y = x^3$ and $y = x^4$."

Recall: $y = f(x)$ may be transformed to $y = af[k(x-d)] + c$

Last class we learned how to sketch polynomial functions in **factored form.** However, if the polynomial function is in the form $y = a[k(x-d)]^n + c$, where $a \neq 0, c \neq 0, k \neq 0$, then it should be graphed by identifying and applying the transformations of the polynomial function $f(x) = x^n$, where n is a nonnegative integer.
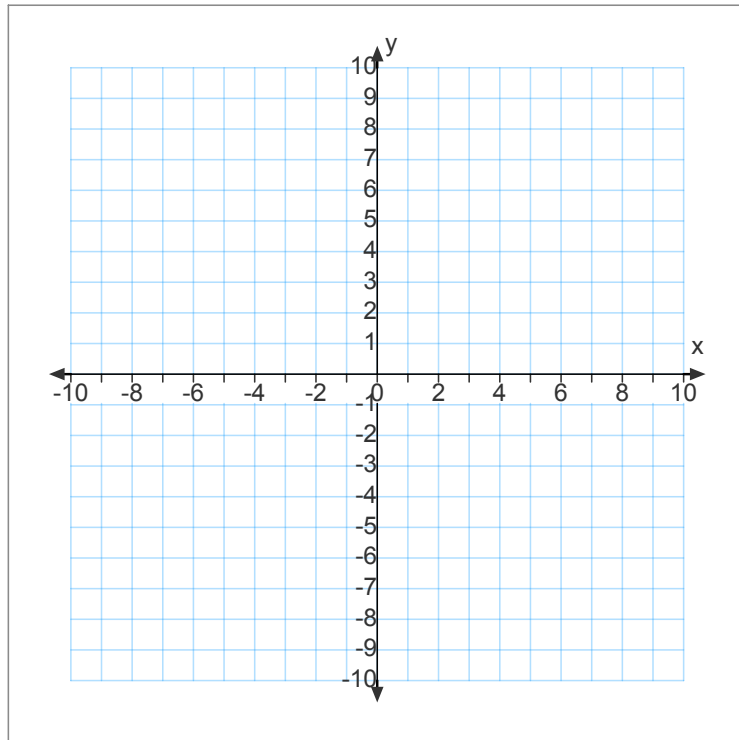
Today: Graphing $y = a[k(x-d)]^3 + c$ and $y = a[k(x-d)]^4 + c$

Ex.1

On the same plane, graph:

a) $y = x^3$

b) $y = -(\frac{1}{2}x - 1)^3$

*2e has an incorrect answer in the back: change "left" to "right"
*2f has an incorrect answer: ...horizontal translation 35 units left...
**8 has an incorrect answer: it should be (−2, −8); (0, 0) then (2, 8)