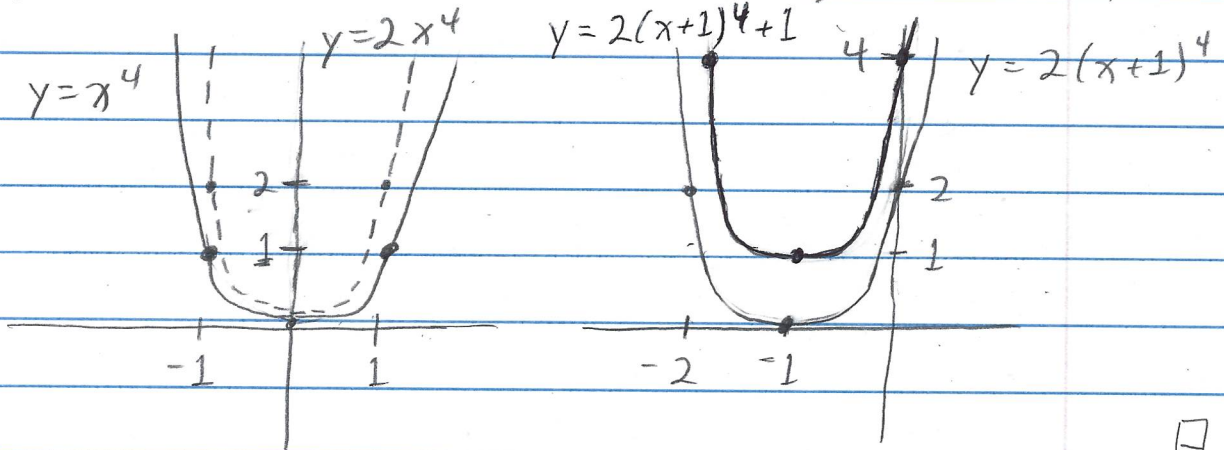


4.1.37

Exercise 4.1.37 Use transformations of the graph of $y = x^4$ to graph $f(x) = 2(x+1)^4 + 1$.
Solution

We start with the graph $y = x^4$ and perform a vertical stretch by a factor of $a = 2$ and consider $y = 2x^4$. Next we replace x with $x-h = x - (-1) = x+1$ which results in a horizontal shift left by 1 unit to get $y = 2(x+1)^4$. Finally, shift vertically up by 1 unit and consider $y = f(x) = 2(x+1)^4 + 1$. This gives:



□