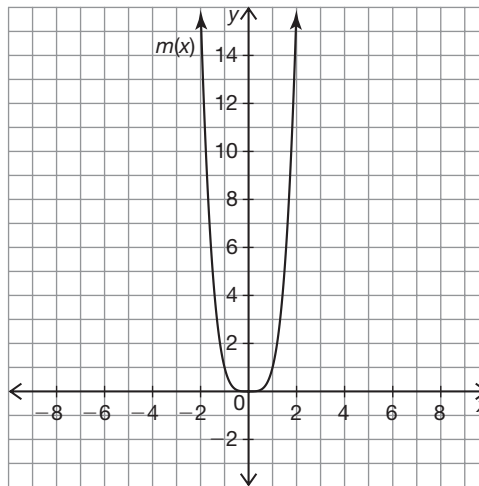


2. The graph of the basic quartic function  $m(x) = x^4$  is shown.

a. The function  $h(x) = \frac{1}{4}(x - 6)^4$  is a transformation of  $m(x)$ . Complete the table.

Reference Points on $m(x)$	→	Corresponding Points on $h(x)$
$(x, y)$	→	
$(-2, 16)$	→	
$(-1, 1)$	→	
$(0, 0)$	→	
$(1, 1)$	→	
$(2, 16)$	→	



b. Graph the function  $h(x) = \frac{1}{4}(x - 6)^4$  on the same coordinate plane as  $m(x)$ .

c. Is the function  $h(x)$  even, odd, or neither? Explain your reasoning.

3. Consider the polynomial function  $p(x) = ax^3 + bx^2 + cx + d$ , where  $a, b, c$ , and  $d$  are real numbers and  $a \neq 0$ .

a. Determine the number of possible zeros for  $p(x)$ .

b. Determine the number of possible  $x$ -intercepts for the graph of  $p(x)$ .

c. Determine the number of possible maximums and minimums for the graph of  $p(x)$ .

d. Describe the end behavior of the graph of  $p(x)$ .