## Classifying Even and Odd Functions - Guided Lesson Explanation

We follow these basic steps to determine the classification:

1. Graph the function.

2. If the graph is symmetric along the y-axis, it is classified as even.

3. If it is symmetric about the origin (0, 0) it is classified as odd.

4. If the function does not meet either measure asymmetric to these tendencies, it is classified as neither.
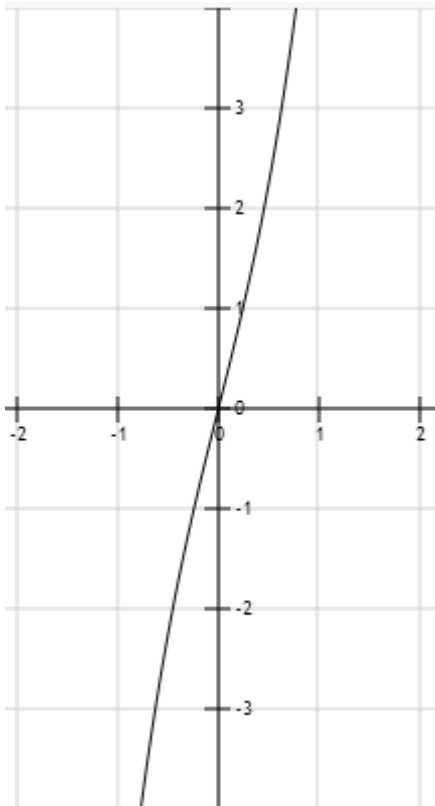
Explanation#1

Step 1) Graph it.
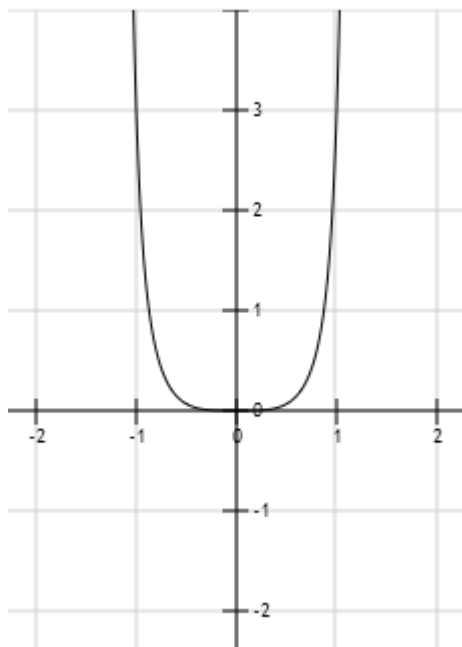
This is symmetric about the y-axis and all the exponents are even
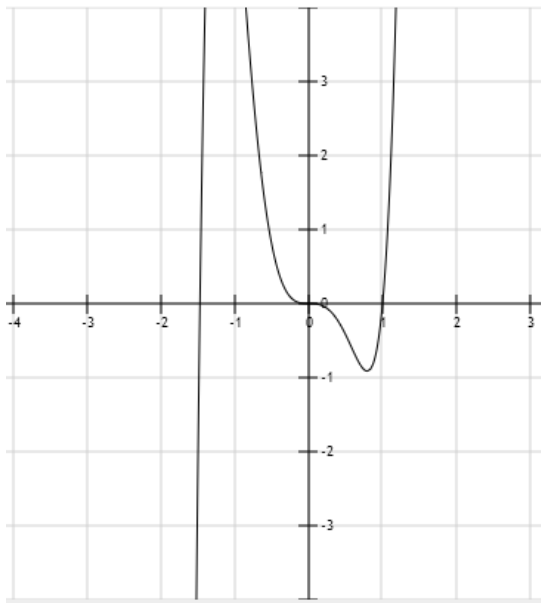
So it is even function.

$f(x) = (x)^8 + (x)4 + (x)^{18} = x^8 + x^4 + x^{18} = f(x)$

Explanation#2

Step 1) Graph it.

This is symmetric about the origin. We would therefore classify it as odd.

Explanation#3

Step 1) Graph it

Step 2) This one is a little more difficult to see, but there is a symmetry about the origin. You just have to look close.

This is symmetric about the origin. We would therefore classify it as odd.