

Answer on Question # 80128 – Math – Calculus

Question

Determine if the following function is even, odd, or neither.

$$f(x) = -9x^4 + 5x + 3$$

Solution

Given the function $f(x) = -9x^4 + 5x + 3$.

Now,

$$\begin{aligned} f(-x) &= -9(-x)^4 + 5(-x) + 3 \\ &= -9x^4 - 5x + 3 \end{aligned}$$

and

$$-f(x) = 9x^4 - 5x - 3$$

So,

$$f(-x) \neq f(x) \text{ (it means that the function } f(x) \text{ is not even)}$$

and

$$f(-x) \neq -f(x) \text{ (it means that the function } f(x) \text{ is not odd).}$$

Answer: the function is neither even nor odd.