Exercise 49

For the following exercises, determine whether the function is odd, even, or neither.

$$h(x) = \frac{1}{x} + 3x$$

Solution

Plug in $-x$ for x and see if the result is either $h(x)$ or $-h(x)$.

$$
\begin{aligned}
h(-x) &= \frac{1}{-x} + 3(-x) \\
&= -\frac{1}{x} - 3x \\
&= -\left(\frac{1}{x} + 3x\right) \\
&= -h(x)
\end{aligned}
$$

Therefore, the function is odd.