Question

Explain *exactly* what is meant by the statement

$$\lim_{x \to 4}(x^2 - e^x) = 16 - e^4.$$

Answer

For every $\varepsilon > 0$, there exists $\delta > 0$ so that if $0 < |x - 4| < \delta$, then $|(x^2 - e^x) - (16 - e^4)| < \varepsilon$.