

Assignment 3 - Limits I

MTH101, FALL 2017. IISER PUNE.

1. Draw the graphs of the following functions

- $f(x) = x^n$ where $n \geq 0$ is an integer.
- $f(x) = e^x$.
- $f(x) = x^3 - x$.
- $f(x) = x^2 - 5x + 6$.
- $f(x) = 0$ if $x < 0$ and $f(x) = 1$ otherwise.

2. Define what do you mean by $\lim_{x \rightarrow a} f(x) = \ell$?

3. Prove that $\lim_{x \rightarrow a} x^2 = a^2$.