This is a simple example to start with LATeX. A mathematical formula can appear in the running text and on a separate line, as the following example shows: Define the function $f:(0,\infty)\to\mathbb{R}$ by

$$f(x) = \frac{\ln x}{x^2}$$

 $\quad \text{then} \quad$

$$\lim_{x \to \infty} f(x) = 0$$