Exercise 1 *Let $g(x) = |x-1|$ and let $h(x) = \sqrt{x} - 1$.*

Exercise 1.1 *State the form of the limit.*

$$\lim_{x \to 1^+} \frac{h(x)}{g(x)}$$

The limit is of the form (nonzero over zero/ zero over zero ✓).

Exercise 1.1.1 *Multiplying by the conjugate, it follows that for all $x > 1$,*

$$\frac{h(x)}{g(x)} = \frac{1}{\boxed{\sqrt{x}+1}}.$$

Exercise 1.1.1.1 *Now, evaluate the limit:*

$$\lim_{x \to 1^+} \frac{h(x)}{g(x)} = \boxed{\frac{1}{2}}.$$