

Question 4

Evaluate the following limit:

$$\lim_{x \rightarrow 1^+} \frac{5}{x - 1}$$

Question 4 - Solution

We are given:

$$\lim_{x \rightarrow 1^+} \frac{5}{x-1}$$

Step 1: Understand the behavior of the denominator

As $x \rightarrow 1^+$, we are approaching 1 from the right. This means $x - 1$ is a small positive number.

Step 2: Behavior of the whole expression

$$\frac{5}{x-1} \rightarrow \frac{5}{\text{small positive number}} \rightarrow +\infty$$

Conclusion:

$$\boxed{\lim_{x \rightarrow 1^+} \frac{5}{x-1} = \infty}$$