

Question 10

Evaluate the limit:

$$\lim_{x \rightarrow 3^+} \frac{5}{x - 3}$$

Question 10 - Solution

We are given:

$$\lim_{x \rightarrow 3^+} \frac{5}{x-3}$$

Step 1: Analyze the denominator

As $x \rightarrow 3^+$, the value of x is slightly greater than 3, so $x - 3$ is a small positive number.

$$x - 3 \rightarrow 0^+ \Rightarrow \frac{1}{x-3} \rightarrow +\infty$$

Multiplying by 5, we have:

$$\frac{5}{x-3} \rightarrow +\infty$$

Conclusion:

$$\boxed{\lim_{x \rightarrow 3^+} \frac{5}{x-3} = +\infty}$$