



Calculus I (Maths 201–NYA)

Limits

Justify your answers—just having the correct answer is not sufficient.

1. $\lim_{x \rightarrow -2} \frac{2 - \sqrt{x^2}}{\sqrt{x+6} - 2}$

2. $\lim_{t \rightarrow 1} \frac{9 - (4 - t^2)^2}{te^t - e^t}$

3. $\lim_{x \rightarrow \infty} \sqrt{x + \sqrt{x}} - \sqrt{x - \sqrt{x}}$

4. $\lim_{x \rightarrow -\infty} \frac{e^x}{4 + 5e^{3x}}$

5. $\lim_{x \rightarrow 0} \sqrt[3]{x^2} \cos\left(\frac{3-x}{x^2}\right)$