

Evaluate each of the following limits **using the methods from Section 3.1**. This means you should identify a function $f(x)$ and a point a such that the limit in the problem is equivalent to computing $f'(a)$. Then, use derivative rules to compute each derivative, and by doing so, compute each limit.

1. $\lim_{x \rightarrow 3} \frac{(x^2 + 3x + 2) - 20}{x - 3}$. Check your answer to this problem using methods from Chapter 2.

2. $\lim_{h \rightarrow 0} \frac{e^{2+h} - e^2}{h}$

3. $\lim_{y \rightarrow 2} \frac{y^5 + y^4 - 4y^3 - 3y^2 - 4}{y - 2}$