

## Lab 4

## Thursday February 16

## Exercises

1. Explicitly naming the rule used in each step, calculate  $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2}$ .
2. Explicitly naming the rule used in each step, calculate  $\lim_{x \rightarrow 3} \frac{x^3 - 27}{x - 3}$ .
3. Explicitly naming the rule used in each step, calculate  $\lim_{x \rightarrow -1} \frac{x^2 - 2x - 3}{x + 1}$ .
4. Explicitly naming the rule used in each step, calculate  $\lim_{x \rightarrow 4} (x + 5)^{3/2}$ .
5. Using any techniques we have developed *in this course*, calculate  $\lim_{x \rightarrow 5} \frac{x - 5}{\sqrt{x + 4} - 3}$ .
6. Using any techniques we have developed *in this course*, calculate  $\lim_{x \rightarrow 9} \frac{\sqrt{x} - 3}{x - 9}$ .
7. Using any techniques we have developed *in this course*, calculate  $\lim_{x \rightarrow -2} \frac{\sqrt{x + 6} - 2}{x + 2}$ .