

## PRACTICE QUIZ 6

ADRIAN PĂCURAR

**Time: 10 min**

**Time to beat: 4 min**

**Problem 1.** Evaluate  $\lim_{x \rightarrow +\infty} \frac{14x^3 - 5x + 27}{x^4 + 10}$

**Problem 2.** Evaluate  $\lim_{x \rightarrow +\infty} \frac{3^x - 3^{-x}}{3^x + 3^{-x}}$

**Problem 3.** Evaluate  $\lim_{x \rightarrow -\infty} \frac{3^x - 3^{-x}}{3^x + 3^{-x}}$

**Problem 4.** Find  $\lim_{x \rightarrow 0} \frac{\sqrt{x+3} - \sqrt{3}}{x}$

**Problem 5.** Evaluate  $\lim_{x \rightarrow +\infty} (x - \sqrt{x^2 - 1})$  (Hint: multiply and divide by  $x + \sqrt{x^2 - 1}$ )