$\mathbf{Quiz} \ \mathbf{4}$

Clear your desk of everything except pens, pencils and erasers. Show all your work. If you have a question raise your hand and I will come to you.

1. [2.5 points] Find the limit:

$$\lim_{x \to \infty} \frac{\ln x}{\sqrt{x}}$$

2. [2.5 points] Find the limit:

$$\lim_{x \to 0} \frac{x3^x}{3^x - 1}$$

3. [5 points] Find the limit:

$$\lim_{x \to 0_+} x(\ln(5x))^2.$$