

**WRITE YOUR NAME:**

MAC 2241 Homework 3

Due in class, Friday February 23rd

You can use more paper if necessary, but please STAPLE

**Question 1.** Evaluate the limit.

$$\lim_{n \rightarrow \infty} \frac{4n + 1}{5n + 2}$$

**Question 2.** Evaluate the limit.

$$\lim_{n \rightarrow \infty} \frac{4^n + 1}{5^n + 2}$$

**Question 3.** Evaluate the limit.

$$\lim_{x \rightarrow \infty} \frac{7x^3 + 1}{\sqrt{25x^6 + 2}}$$

**Question 4.** Evaluate the limit.

$$\lim_{x \rightarrow -4} \frac{\sqrt{x^2 + 9} - 5}{x + 4}$$