The remainder of this page has been left blank for your workings.
Very short answer questions

1. 2 marks Each part is worth 1 marks. Please write your answers in the boxes.

(a) Compute \( \lim_{x \to 1} \frac{2x}{\sqrt{3x^2 + 7}} \).

Answer:

(b) Compute the limit \( \lim_{x \to -3} \frac{x^2 + 5x + 6}{x + 3} \).

Answer:
Short answer questions — you must show your work

2. [4 marks] Each part is worth 2 marks.

(a) Find the left-hand and right-hand limits of \( \frac{x}{\sqrt{x^2}} \) as \( x \to 0 \).

Answer:

(b) Evaluate \( \lim_{x \to -\infty} \frac{\sqrt{x^2 + 5} - x}{3x + 5} \)

Answer:
Long answer question — you must show your work

3. 4 marks Compute the limit $\lim_{x \to -1} \frac{\sqrt{x^2 + 3} - 2}{2x + 2}$.

Answer:
Very short answer questions

1. 2 marks Each part is worth 1 marks. Please write your answers in the boxes.
   
   (a) Compute \( \lim_{x \to 1} \sqrt{11x^2 + 5} \).

   Answer:

   (b) Compute the limit \( \lim_{x \to 4} \frac{x^2 - 16}{x - 4} \).

   Answer:
Name: ___________________________  Student-No: ___________________________

Short answer questions — you must show your work

2. [4 marks] Each part is worth 2 marks.

(a) Find the left-hand and right-hand limits of \( \frac{2x-6}{|x-3|} \) as \( x \to 3 \).

Answer:

(b) Evaluate \( \lim_{x \to -\infty} \frac{5x+4}{\sqrt{x^2+4-x}} \)

Answer:
Long answer question — you must show your work

3. **4 marks** Compute the limit $\lim_{x \to 2} \frac{\sqrt{x-1} - \sqrt{3-x}}{x-2}$.

Answer:
The remainder of this page has been left blank for your workings.
Very short answer questions

1. 2 marks Each part is worth 1 marks. Please write your answers in the boxes.
   (a) Compute \( \lim_{x \to 1} 3 \sqrt{2x + 6} \).

   Answer:

   

   (b) Compute the limit \( \lim_{x \to -3} \frac{x^2 + 2x - 3}{x + 3} \).

   Answer:
Name: ___________________________ Student-No: ___________________________

Short answer questions — you must show your work

2. 4 marks Each part is worth 2 marks.

(a) Find the left-hand and right-hand limits of $\frac{|4x - 4|}{x - 1}$ as $x \to 1$.

Answer: 

(b) Evaluate $\lim_{x \to -\infty} \frac{x}{\sqrt{4x^2 + 1} - 3x}$

Answer:
Long answer question — you must show your work

3. **4 marks** Compute the limit \( \lim_{{x \to 1}} \frac{1 - x}{\sqrt{4x + 5} - \sqrt{10 - x}}. \)

Answer: