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 \( \lim_{x \to -1} \sqrt[3]{3x^3 + 7} \).

   Answer:

   \[
   \lim_{x \to -1} \sqrt[3]{3x^3 + 7}
   \]

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

   Answer:

   \[
   \lim_{x \to 2} \frac{x^2 - 4}{x - 2}
   \]
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 \( \frac{|6 + 3x|}{x + 2} \) as \( x \to -2 \).

   Answer:

   

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

   Answer:
Long answer question — you must show your work

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

Answer:
First Name: ______________________   Last Name: ______________________

Student-No: ______________________   Section: ______________________

Grade:

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Very short answer questions

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

(a) Compute \( \lim_{x \to 2} \frac{1}{\sqrt{1 + 4x}}. \)

Answer:

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

Answer:
Name: ___________________________ Student-No: ___________________________

Short answer questions — you must show your work

2. 4 marks Each part is worth 2 marks.

(a) Compute both one-sided limits \( \lim_{x \to -3^+} \frac{|x + 3|}{2x + 6} \) and \( \lim_{x \to -3^-} \frac{|x + 3|}{2x + 6} \).

Answer:

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

Answer:
Long answer question — you must show your work

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

Answer:
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Very short answer questions

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

   (b) Compute the limit \( \lim_{x \to -1} \frac{x^2 - 2x - 3}{x + 1} \).
      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 \( \frac{\sqrt{(x - 1)^2}}{x - 1} \) as \( x \to 1 \).

Answer:

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

Answer:
Long answer question — you must show your work

3. **4 marks** Compute the limit \( \lim_{x \to 3} \frac{x - 3}{\sqrt{x + 1} - \sqrt{7 - x}} \).

Answer:
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Very short answer questions

1. 2 marks Each part is worth 1 marks. Please write your answers in the boxes.
   
   (a) Compute \( \lim_{x \to 1} \sqrt{x + 4x^2} \).
   
   Answer:

   (b) Compute the limit \( \lim_{x \to -2} \frac{x^2 - 4}{x + 2} \).
   
   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 \(\frac{6 - 2x}{|x - 3|}\) as \(x \to 3\).

   **Answer:**

   (b) Evaluate \(\lim_{x \to -\infty} \frac{\sqrt{x^2 + 5} - x}{x + 1}\)

   **Answer:**
Long answer question — you must show your work

3. 4 marks Compute \( \lim_{x \to 2} \frac{x - 2}{\sqrt{x - 1} - \sqrt{3 - x}} \).

Answer: