Very short answer questions

1. [2 marks] Each part is worth 1 mark. Please write your answers in the boxes.
   (a) Evaluate $\tan\left(\frac{\pi}{3}\right)$.

   Answer:

(b) Compute $\lim_{t \to -1} \left(\frac{t - 2}{t + 3}\right)$.

   Answer:

Short answer questions — you must show your work

2. [4 marks] Each part is worth 2 marks.
   (a) Find all solutions to $x^3 - 3x^2 - x + 3 = 0$

   (b) Compute the limit $\lim_{x \to 2} \frac{x - 2}{x^2 - 4}$
Long answer question — you must show your work

3. 4 marks  Compute the limit \( \lim_{x \to 1} \frac{\sqrt{x + 2} - \sqrt{4 - x}}{x - 1} \).
Very short answer questions

1. [2 marks] Each part is worth 1 marks. Please write your answers in the boxes.
   
   (a) Compute \( \tan\left(\frac{\pi}{6}\right) \).

   Answer:

   (b) Compute \( \lim_{t \to -2} \left( \frac{t - 5}{t + 4} \right) \).

   Answer:

Short answer questions — you must show your work

2. [4 marks] Each part is worth 2 marks.
   
   (a) Find all solutions to \( x^3 - x^2 - 4x + 4 = 0 \)

   (b) Compute the limit \( \lim_{x \to 3} \frac{x - 3}{x^2 - 9} \)
Long answer question — you must show your work

3. [4 marks] Compute the limit \( \lim_{x \to 3} \frac{\sqrt{x - 2} - \sqrt{4 - x}}{x - 3} \).
Very short answer questions

1. 2 marks Each part is worth 1 mark. Please write your answers in the boxes.
   (a) Evaluate \( \csc \left( \frac{\pi}{3} \right) \).
   Answer: 

   (b) Compute \( \lim_{t \to -1} \left( \frac{t^2}{t - 1} \right) \).
   Answer: 

Short answer questions — you must show your work

2. 4 marks Each part is worth 2 marks.
   (a) Let \( f(x) = 3x^2 - 7x - 3 \) and \( g(x) = 2x^2 - 6x + 3 \). Find all values of \( x \) for which \( f(x) = g(x) \).

   (b) Compute the limit \( \lim_{x \to -2} \frac{x + 2}{x^2 - 4} \)
3. [4 marks] Compute the limit \( \lim_{x \to 1} \frac{\sqrt{3x+5} - \sqrt{2x+6}}{x-1} \).
Very short answer questions

1. 2 marks Each part is worth 1 mark. Please write your answers in the boxes.
   
   (a) Evaluate \( \tan \left( \frac{3\pi}{4} \right) \).

   Answer:

   (b) Compute \( \lim_{t \to 2} \sqrt{2t^3 - 16} \).

   Answer:

Short answer questions — you must show your work

2. 4 marks Each part is worth 2 marks.

   (a) Find all \( x \) such that \( x^2 + 5x + 6 > 0 \).

   (b) Compute the limit \( \lim_{x \to -7} \frac{2x + 14}{x^2 - 49} \).
Long answer question — you must show your work

3. [4 marks] Compute the limit \( \lim_{x \to -1} \frac{x + 1}{\sqrt{x^2 + 15} - 4} \).