Name: Quiz 2

1. Evaluate each limit it it exists.

   (a) (2 points) $\lim_{x \to -2} \dfrac{x^2 - 4}{x + 2}$

   (b) (2 points) $\lim_{x \to \infty} \dfrac{4x^2 - 1}{x + 2}$

2. (6 points) for the function

$$f(x) = \begin{cases} -x & \text{if } x \leq 0 \\ x & \text{if } 0 < x < 1 \\ 0 & \text{if } x = 1 \\ -x + 2 & \text{if } x > 1 \end{cases}$$

   Evaluate:

   i) $f(0) =$

   ii) $f(1) =$

   iii) $\lim_{x \to 1} f(x) =$

   iv) $\lim_{x \to 0} f(x) =$

3. (a) (5 points) Find the equation of the line passing through the points $(1, 4)$ and $(3, -12)$.

(b) (1 point) What are the x and y intercept for the line in the previous question?

(c) (5 points) Draw the line on the xy-coordinate system. Points will be taken off for sloppy drawing. Label axis and important points.