Math101 Term171
Sec20 Quiz 1

Name	ID	Sr

Q1(5points) Let

$$f(x)=\begin{cases} x-1 & if\ x<2 \\ x^2 & if\ 2\le x<4 \\ 8+2x & if\ x\ge 4 \end{cases}$$

Then, find the following limits if they exist: (Justify your steps)

$a)\ \lim_{x\to 2} f(x)$

$b)\ \lim_{x\to 3} f(x)$

$c)\ \lim_{x\to 4} f(x)$

Q2) Evaluate the following limits if they exist (Show your work)

$a)\ \lim_{x\to 0^+} \left(\sqrt{x^3+x}\right)\left(3^{\cos(\frac{2}{x})}\right)$ (5 points)

(5 points)

$b) \lim_{x \to 2} \frac{\sqrt{6-x}-2}{\sqrt{3-x}-1}$

Q3 (5 points) Use limits to find all vertical asymptotes for the function

$f(x) = \frac{x^2-3x+2}{2x^2-3x+1}$ (Justify your steps)