King **F**ahd **U**niversity for **P**etroleum and **M**inerals
Department of Mathematics & Statistics
Term 171 Math 101 (25) Quiz#2 (2.4, 2.5, 2.6, and 2.7)
Family Name: S.r#

Q1. Use limits to find the slope of the tangent line to $f(x)=\dfrac{2x-1}{x-2}$ at $x=1$, then find an equation of this tangent line.

Q2. For $\lim\limits_{x\to(-4)^-}\sqrt{-x}=2$, find the largest value of δ corresponds to $\varepsilon=1$

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Term 171 Math 101 (47) Quiz#2 (2.4, 2.5, 2.6, and 2.7)
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Q1. Find a, and b such that $f(x)=\begin{cases} -1 & \text{if } x=2 \\ ax^2-bx & \text{if } 2<x<3 \\ x-1-a+b & \text{if } 3\le x\le 5 \end{cases}$ satisfies the hypotheses (condition(s)) of the intermediate value theorem on $[2,5]$.

Q2. Find the horizontal asymptote of $f(x)=x-\ln(2e^x+1)$ as $x\to\infty$