TMATH 124: Concept Check Day 17

Be sure to write down your ideas (numerically, algebraically, or geometrically) so that you can earn credit for your work!! To earn full marks for this you must attempt all problems.

1. Find $\left(\dfrac{x9^x}{9^x - 1}\right)'$

2. Find the following *limits*

   (a) $\displaystyle\lim_{x\to\infty} \dfrac{x}{\ln x}$

   (b) $\displaystyle\lim_{x\to 0} \dfrac{x9^x}{9^x - 1}$

   (c) $\displaystyle\lim_{x\to\pi^-} \dfrac{\sin x}{1 - \cos x}$