## Problem 3: Angle Between Two Lines

Let $L_{1}$ and $L_{2}$ be two non-vertical lines with slopes $m_{1}$ and $m_{2}$ respectively. Let $\theta$ be the angle between them. Find $\cot (\theta)$ in terms of $m_{1}$ and $m_{2}$.

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.

Posting Date 2/13/2021. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 by e-mail or hard-copy by noon on February 20, 2021. An email submission must be a single pdf file. Hard copy submissions must be dropped in the file holder at my office door (Hayes 319) and must include a time stamp.

