## 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.