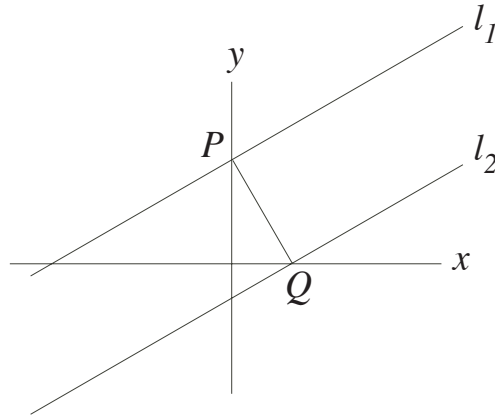




## Problem of the Week Grade 9 and 10

### Slippery Slopes



Line  $l_1$  has equation  $y = mx + k$ . Line  $l_1$  crosses the  $y$ -axis at point  $P$  and  $l_2$  crosses the  $x$ -axis at point  $Q$ .  $PQ$  is perpendicular to both line  $l_1$  and line  $l_2$ .

Determine the  $y$ -intercept of  $l_2$  in terms of  $m$  and  $k$ .

If you are finding this general problem difficult to start, consider first solving a problem with a specific example for  $l_1$  like  $y = 4x + 3$  and then attempt the more general problem.

