

- (1) Let  $L$  be the line in  $\mathbf{R}^3$  containing the points  $P = (3, 0, 2)$  and  $Q = (1, 1, 4)$ . Find a vector parameterization of  $L$ .
- (2) Let  $M$  be the line containing the origin and the point  $P$ , so the lines  $L$  and  $M$  intersect at  $P$ . Find the angle between the lines at that point.  
(Actually, when two lines meet, there are two different angles, as shown below. You can find either one.)

