

3.28 This problem asks that a  $[\bar{1}01]$  direction be drawn within a monoclinic unit cell ( $a \neq b \neq c$ , and  $\alpha = \beta = 90^\circ \neq \gamma$ ). One such unit cell with its origin at point  $O$  is sketched below. For this direction, we move from the origin along the minus  $x$ -axis  $a$  units (from point  $O$  to point  $P$ ). There is no projection along the  $y$ -axis since the next index is zero. Since the final index is a one, we move from point  $P$  parallel to the  $z$ -axis,  $c$  units (to point  $Q$ ). Thus, the  $[\bar{1}01]$  direction corresponds to the vector passing from the origin to point  $Q$ , as indicated in the figure.

