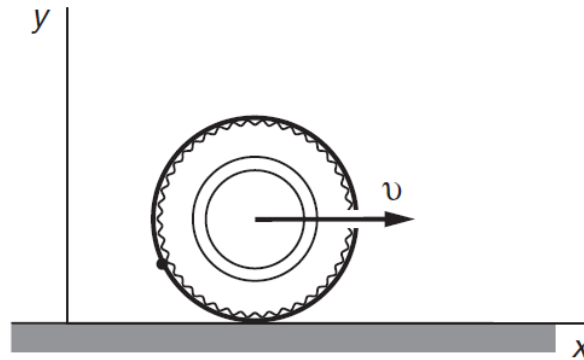


## Problem 1.24

### *Rolling tire*

A tire of radius  $R$  rolls in a straight line without slipping. Its center moves with constant speed  $V$ . A small pebble lodged in the tread of the tire touches the road at  $t = 0$ . Find the pebble's position, velocity, and acceleration as functions of time.



[TYPO: It should be  $V$  in the figure, not  $v$ .]