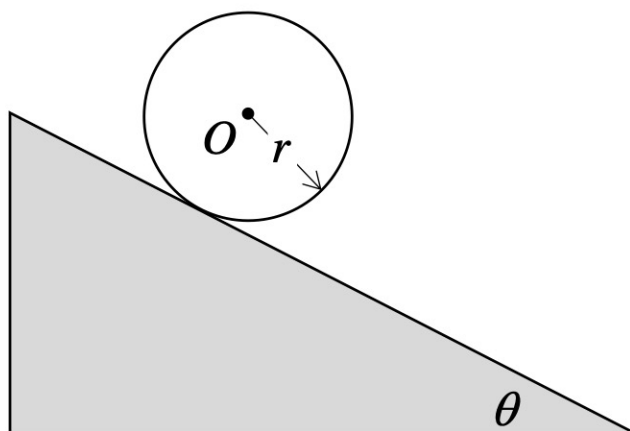


**Homework H5.K**

**Given:** The center of the homogeneous disk of mass  $m$  shown below has an initial velocity of  $v_0$  up the slope.

**Find:** Find the velocity of the disk after an elapsed time of  $\Delta t$ , assuming that the disk rolls without slip.



Use the following parameters in your analysis:  $m = 10$  kg,  $r = 0.5$  m,  $\theta = 30^\circ$ ,  $v_0 = 30$  m/s and  $\Delta t = 12$  s.