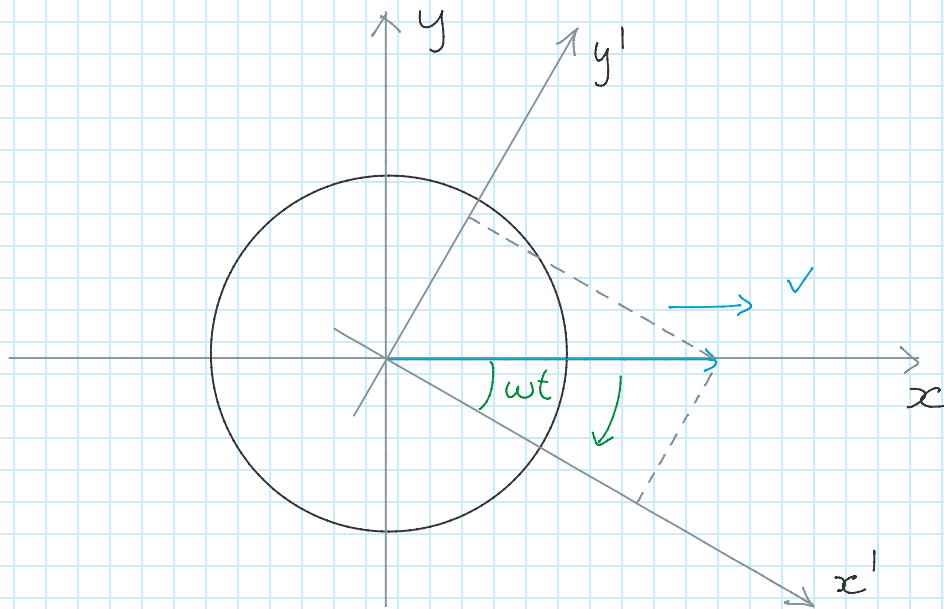


# Constant velocity and non inertial frames

Saturday, September 7, 2019 8:51 AM

## Problem 1.46 Taylor

A frictionless Puck is slid straight across a rotating turntable starting from the origin  $O$  and moving east. Write down the equations for the  $x$  and  $y$  coordinate of the puck as a function of time, as seen from the rotating turntable



$$x = r = vt \quad y = 0 \quad \phi = 0$$

$$x' = r \cos(\omega t) \quad y' = r \sin(\omega t)$$

$$r' = vt \quad \phi' = \omega t$$

$$x' = vt \cos(\omega t) \quad y' = vt \sin(\omega t)$$

The puck moves along a spiral in the non inertial frame