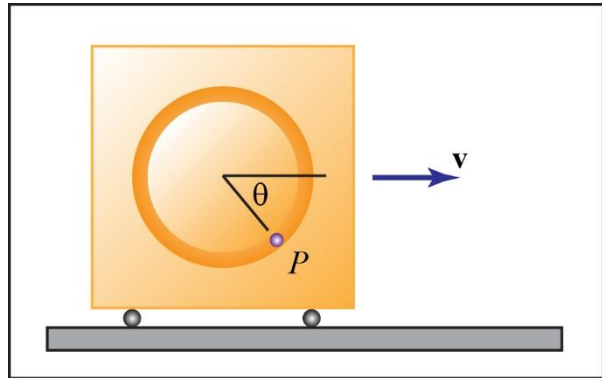


P3.14-8) A cart travels at a constant speed of 10 m/s in the direction shown. On the cart a ball P is forced to move in a counterclockwise circle with a constant speed of 6 m/s relative to the cart. What is the absolute velocity of the ball when $\theta = 30^\circ$?



Given:

Find:

Solution:

Draw a coordinate system on the figure and write down the given velocities in vector form.

$\mathbf{v}_{\text{cart}} =$ _____

$\mathbf{v}_{P/\text{cart}} =$ _____

Calculate the absolute velocity of P .

$\mathbf{v}_P =$ _____