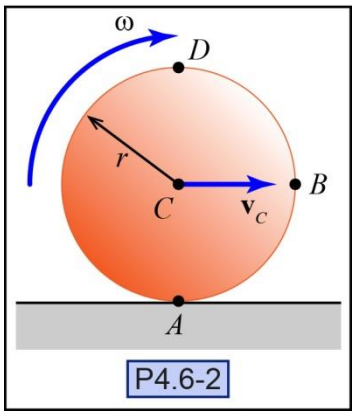
P4.6-2)[fe] A disk with radius r rolls without slipping on a horizontal surface. If the speed of the disk's center is v_C, in the direction shown, determine the velocity of point B and D in terms of the center speed.



P4.6-2

Given:

Find:

Solution:

Relate the angular speed of the disk to v_C and the disk radius.

ω = _____

Calculate the velocity of point B as a function of v_C.

Draw $\mathbf{v}_B$ on the figure.

$\mathbf{v}_B$ = _____

Calculate the velocity of point D as a function of v_C.

Draw $\mathbf{v}_D$ on the figure.

$\mathbf{v}_D$ = _____