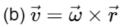The velocity of a particle on a body at a position vector r on a body rotating about an arbitrary axis with an angular velocity of ω is given by

   a. $v = r \times \omega$

   b. $\vec{v} = \vec{\omega} \times \vec{r}$

   c. $v = \omega \times r\omega$

   d. $v = \omega \times rr$

(b) $\vec{v} = \vec{\omega} \times \vec{r}$

Explanation: If a particle is undergoing circular motion with an angular velocity $\vec{\omega}$ and the particle has a position vector $\vec{r}$ that is measured with respect to an origin that lies on the axis of rotation, then the velocity of the particle is $\vec{v} = \vec{\omega} \times \vec{r}$